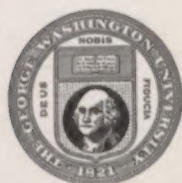




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THE SUMMER SESSIONS

1951



CONTENTS

Summer Sessions Bulletin 1952

Composite Catalogue 1952-53

School of Medicine Bulletin 1952-53

Law School Bulletin 1952-53

School of Education Bulletin 1952-53

Report of the Comptroller 1952

Summaries of Doctoral Dissertations  
1951 and 1952

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VOL. LI

No. 1

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THE SUMMER SESSIONS

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WASHINGTON, D. C.

PUBLISHED IN JANUARY  
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BY THE UNIVERSITY

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UNIVERSITY

BULLETIN

No. 1

Vol. 1

THE SUMMER SESSIONS

WASHINGTON, D. C.

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# CONTENTS

	PAGE
CALENDAR OF THE SUMMER SESSIONS.....	vi
THE UNIVERSITY .....	i
The Board of Trustees .....	3
Officers of Administration .....	4
History and Organization .....	6
Academic Status .....	7
Location .....	7
Educational Facilities .....	8
Other Library Facilities in Washington .....	8
Research Facilities of Washington .....	8
THE SUMMER SESSIONS .....	11
Staff of Instruction .....	13
Admission .....	17
Registration .....	18
Fees and Financial Regulations .....	18
University Regulations .....	21
Veterans Education .....	21
Student Life .....	22
THE COLLEGES, SCHOOLS, AND DIVISIONS .....	25
The Junior College .....	27
Columbian College (the senior college) .....	27
The Graduate Council .....	29
The Law School .....	29
The School of Education .....	30
The School of Government .....	31
Foreign Service Examination Review Course .....	31
The Division of University Students .....	32
The Division of Special Students .....	32
The College of General Studies .....	32
COURSES OF INSTRUCTION .....	35
SCHEDULE OF CLASSES .....	69

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# CALENDAR OF THE SUMMER SESSIONS \*

1952

Date	Day	Occasion
June 2.....	Monday .....	Registration for the first session
June 3.....	Tuesday .....	First session classes begin
July 4.....	Friday .....	Independence Day. Holiday
July 28.....	Monday .....	First summer session ends
July 29.....	Tuesday .....	Registration for the second session of the summer term
July 30.....	Wednesday .....	Classes begin
Aug. 23.....	Saturday .....	Foreign-language examinations for candidates for the Master's degrees
Sept. 1.....	Monday .....	Labor Day. Holiday
Sept. 12.....	Friday .....	Last day for receiving dissertations of candidates for the degrees of Doctor of Philosophy and Doctor of Education to be conferred in November
Sept. 19.....	Friday .....	Second summer session ends Last day for receiving theses for the Master's degrees and for the professional degrees in Engineering to be conferred in November
Sept. 24-26 ..	Wednesday through Friday .....	Registration for the fall term of the academic year 1952-53.

\* The calendar for the Law School is as follows: first session, June 2-July 29; second session, July 30-September 23; sixteen week term, June 2-September 23.  
Registration for each of the special sessions in the School of Education is on the first day of classes. (See pages 45-47.)



THE UNIVERSITY



## OFFICERS OF ADMINISTRATION

### THE UNIVERSITY

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
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Mitchell Dreesse, Ph.D., *Dean of the College of General Studies*  
Victor Frederick Ludewig, A.B., B.S., *Superintendent of the University Hospital*  
William Lewis Turner, A.M., *Assistant Dean of the Junior College*  
George Martin Koehl, A.M., *Assistant Dean in the Junior College*  
Carl Bartleson Lavell, A.M., *Assistant Dean in the Junior College*



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*Law School*

Joe Lee Jessup, M.B.A., *Assistant Dean in the School of Government*

John Francis Latimer, Ph.D., *Assistant Dean of the College of General*  
*Studies*

# THE UNIVERSITY

## HISTORY AND ORGANIZATION

The idea of a university in the Capital of the Nation was sponsored by George Washington, who during his public life urged the establishment of such an institution and who in his will left fifty shares of stock in the Potomac (Canal) Company for the endowment of a university to be established in the District of Columbia "to which the youth of fortune and talents from all parts thereof might be sent for the completion of their Education in all the branches of polite literature;—in arts and Sciences,—in acquiring knowledge in the principles of Politics & good Government".

Columbian College in the District of Columbia was chartered by an act of Congress of February 9, 1821. In 1873 the name was changed to "Columbian University" and in 1904 to "The George Washington University".

The George Washington University includes thirteen colleges, schools, and divisions, as follows:

The Junior College offers the work of the first two years of the four-year college program in the liberal arts and sciences; two years of pre-professional work; and two-year terminal courses. Each of these curricula leads to the degree of Associate in Arts.

Columbian College offers the work of the junior and senior years of the four-year college program in the liberal arts and sciences leading to the degrees of Bachelor of Arts and Bachelor of Science. It also offers the studies leading to the degrees of Master of Arts and Master of Science in the fields of the liberal arts and sciences.

The Graduate Council offers a program of advanced study and research leading to the degree of Doctor of Philosophy.

The School of Medicine offers work leading to the degree of Doctor of Medicine.

The Law School offers curricula leading to the degrees of Bachelor of Laws, Juris Doctor, Master of Laws, Master of Comparative Law (for foreign students wishing (1) to return to their own countries or (2) to remain in this country for the practice of law), and Doctor of Juridical Science.

The School of Engineering offers courses leading to the degrees of Bachelor of Civil Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering, and Bachelor of Science in Engineering. It also directs work leading to the professional degrees in the fields of civil, electrical, and mechanical engineering.



The School of Pharmacy offers courses leading to the degrees of Bachelor of Science in Pharmacy and Master of Science in Pharmacy.

The School of Education offers undergraduate programs leading to the degrees of Bachelor of Arts in Education, Bachelor of Science in Home Economics, and Bachelor of Science in Physical Education, and graduate studies leading to the degrees of Master of Arts in Education and Doctor of Education.

The School of Government offers undergraduate programs of study in Foreign Affairs, Accounting, Business Administration, and Statistics, leading to the degree of Bachelor of Arts in Government. Graduate work is offered leading to the degrees of (1) Master of Arts in Government with a major field in Foreign Affairs, Economic Policy, Accounting, Business and Economic Statistics, or Vocational Counseling; (2) Master of Arts in Public Administration with a major in General Administration or Governmental Fiscal Administration; (3) Master of Arts in Personnel Administration; (4) Master of Business Administration; (5) Doctor of Business Administration.

The Division of University Students makes available courses for mature students not candidates for degrees in this University.

The Division of Special Students makes available courses for students in the process of qualifying for degree candidacy.

The College of General Studies includes the following divisions: the Off-Campus Division, the Campus Division, and the Division of Community Services. The college is designed for adults, and sponsors a program of credit and non-credit courses throughout the year.

The Summer Sessions.

#### ACADEMIC STATUS

The George Washington University is on the final approved list of the Association of American Universities. This fact not only assures to students the academic standards of this association, but also is important to those who desire to transfer credits from one institution to another.

The University is also accredited by its regional accrediting agency, the Middle States Association of Colleges and Secondary Schools, and is on the approved list of the American Association of University Women.

The Law School is a charter member of the Association of American Law Schools and is approved by the Section of Legal Education and Admissions to the Bar of the American Bar Association. The School of Medicine is a member of the Association of American Medical Colleges, and is one of the medical colleges which have been continuously approved by the American Medical Association. The School of Pharmacy is accredited by the American Council on Pharmaceutical Education and

is a member of the American Association of Colleges of Pharmacy. The School of Engineering is on the accredited list of the Engineers' Council for Professional Development.

#### LOCATION

The George Washington University is in downtown Washington, four blocks west of the White House and east of the Potomac River with its extensive parkway. Readily accessible to the University are many of the departments of the Government, including the Department of State, the Department of the Treasury, the Department of Justice, the Department of the Army, the Department of the Navy, the Department of the Interior, the Department of Agriculture, the Department of Commerce, and the Department of Labor, as well as the National Archives, the Capitol, the Library of Congress, the National Academy of Sciences, the Pan American Union, the National Gallery of Art, and the Corcoran Gallery of Art.

#### EDUCATIONAL FACILITIES

Buildings, grounds, and equipment of the University are valued at over \$18,000,000. The buildings of the colleges, schools, and divisions offering Summer Sessions work are in the vicinity of Twenty-first and G Streets, NW.

*The University Library.*—The University Library contains 250,000 volumes, and with the exception of the law and medical collections is housed in the Library Building.

Regulations governing the use of the library, the circulation of books, and the use of reserve books and periodicals are available at the service desks of the Library.

#### OTHER LIBRARY FACILITIES IN WASHINGTON

The student has access also to the Library of Congress, the Public Library of the District of Columbia and its branches, the Library of the Pan American Union, the Library of the Bureau of Railway Economics, the Library of the United States Department of Agriculture, the Library of the United States Office of Education, the Army Medical Library, the Library of the Smithsonian Institution, and many other great special collections of the government departments.

#### RESEARCH FACILITIES OF WASHINGTON

The arrangement of the summer schedule of classes permits the full-time student to avail himself of the opportunity to study, at first hand, the working of the Federal Government and so to form a background for intelligent and useful citizenship.

In the departmental libraries of the Federal Government are a multi-



tude of reports made by eminent specialists in all fields of science on the results of study and research in the bureaus, experimental stations, laboratories, museums, and observatories of the Nation.

In addition to the governmental collection the student has access to the research facilities of such scientific and educational groups, whose headquarters are situated in Washington, as the Carnegie Institution, the American Council on Education, the American Council of Learned Societies, the National Academy of Sciences, the National Research Council, the National Education Association, and the National Geographic Society.





THE SUMMER SESSIONS

1952





## STAFF OF INSTRUCTION IN THE SUMMER SESSIONS

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 Antonio Alonso, A.M., *Associate Professor of Spanish*  
 Grover Lamarr Angel, A.M., *Lecturer in Education*  
 Walter Hall Bailey, A.M., *Assistant Professor of Geography*  
 Gordon Barnewall, M.B.A., *Assistant Professor of Business Administration*  
 James Gwavas Beckerley, Ph.D., *Professorial Lecturer in Physics*  
 Gordon Edward Bell, M.B.A., *Instructor in Accounting*  
 Carville Dickinson Benson, A.B., LL.B., S.J.D., *Professor of Law*  
 Lee Sheward Bielski, A.M., *Instructor in Speech*  
 Charles Edward Bish, A.M., Ed.D., *Professorial Lecturer in Education*  
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 John Withrow Brewer, Ph.D., *Professor of International Law*  
 Byron Brown, *Lecturer in Art*  
 James Leonard Buckler, A.M., *Lecturer in Accounting*  
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 Willard Edmund Caldwell, Ph.D., *Assistant Professor of Psychology*  
 Robert Dale Campbell, Ph.D., *Associate Professor of Geography*  
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 Louis Clark Keating, Ph.D., *Professor of Romance Languages*  
 Ralph Dale Kennedy, Ph.D., *Professor of Accounting*  
 James Cecil King, A.M., *Associate in German*  
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 Francis Lincoln Lambert, B.S., *Instructor in Zoology*  
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Lawson Edwin Yocum, Ph.D., *Professor of Botany*  
Donnell Brooks Young, Ph.D., *Professor of Zoology*



## THE SUMMER SESSIONS

The work of the Summer Sessions has been planned to meet the needs of full- and part-time students and of those who are accelerating their college work.

During the summer of 1952, courses are offered in the Junior College, Columbian College (the senior college), the Law School, the School of Education, and the School of Government.

Students may enter the Summer Sessions at the beginning of any one of the sessions.

Classes, with a few exceptions, meet daily, Monday through Friday.

During each eight-week session a full term's work in each course is completed.

### ADMISSION

An applicant for admission must obtain from the Office of the Director of Admissions an application blank which he must fill out completely and return with the application fee of \$3. A recent photograph, with signature, of the applicant must be attached to the blank.

### ENTRANCE REQUIREMENTS

#### The Student Seeking a Degree

An applicant from a secondary school must send the high school record form furnished by the University to his high school principal, with the request that the principal fill out the form and mail it direct to the Office of the Director of Admissions.

An applicant who has previously attended an institution of higher learning should request the registrar of that institution to mail direct to the Office of the Director of Admissions a transcript of his record. If he has attended more than one such institution he must request the registrar of each institution to send to the Office of the Director of Admissions a transcript of his record, *even though credits were not earned, together with an honorable dismissal.*

Entrance requirements are stated in this bulletin under the various colleges, schools, and divisions.

#### The Student Not Seeking a Degree

Students 21 years of age or over who are not interested in working for a degree in this University may be considered for admission to the Division of University Students to take courses for which they have adequate preparation, as evidenced by previous scholastic records.

In special instances, with the permission of the instructor, a person who has been admitted to the University may be registered as an auditor in a class without being required to take active part in the exercises or to pass examinations, but no academic credit will be allowed for such attendance. Students in good standing and matriculated for degrees in other institutions who wish to take certain courses in this University will be admitted to the Division of University Students for the summer only, to the extent that the facilities permit. In such cases transcripts of record are not required.

#### REGISTRATION\*

Before a student may register he must have satisfied the Office of Admissions that he is qualified to enter the University.

A student previously matriculated in the University but not in attendance during the term preceding this registration must file an application for readmission in advance of registration.

For registration students should report to the Office of the Registrar, Building C, 2029 G Street NW., between 9:00 A.M. and 7:00 P.M., on the dates stated in the Calendar.

#### CHANGES IN PROGRAM OF STUDY

Changes in programs of study may be made only with the permission of the adviser or major professor and the dean or director of the college, school, or division concerned.

#### FEES AND FINANCIAL REGULATIONS

By authorization of the Board of Trustees, the following fees have been adopted:

##### TUITION FEES

For each credit hour for which the student registers except work in the Law School and work taken by a candidate for a Doctor's degree†	\$13.00
For each credit hour for which the student registers in the Law School	15.00
For the degree of Doctor of Philosophy:	
For work leading to and including the Council Fellowship examination§	400.00
For work leading to and including the final examination§	400.00

\* Registration for the Law School is conducted in Stockton Hall, 730 Twentieth Street, NW.  
 † Payment of tuition for the thesis entitles the candidate, during the academic year of registration, to the advice and direction of the member of the faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year may be granted without further tuition payment. If the preparation of the thesis extends beyond the second academic year, it must be registered for again, and tuition paid on the same basis as for a repeated course.  
 § When a limited schedule is carried which extends the time of either the preparation period or the examination period to more than one year, the proportionate part of the charge may be fixed by the Comptroller.



For the degree of Doctor of Education:

For work leading to and including the general examination\*..... 400.00

For work leading to and including the final examination\*..... 400.00

For the degree of Doctor of Juridical Science:

For work leading to and including the final examination\*..... 400.00

For the degree of Doctor of Business Administration:

For work leading to and including the general examination\*..... 400.00

For work leading to and including the final examination\*..... 400.00

#### ADDITIONAL COURSE FEES

In certain courses additional fees such as laboratory and material fees are charged as indicated in the course descriptions. These fees are due with the tuition fee for the course. Breakage of apparatus is charged against the individual student. When breakage is in excess of the normal amount provided for in the laboratory fee, the individual student will be required to pay such additional charges as are determined by the department concerned.

#### GRADUATION FEES

Wherein the degree of Associate in Arts is granted..... 10.00

Wherein a degree other than the Associate in Arts degree is granted..... 20.00

FEE FOR BINDING MASTER'S THESES..... 5.00

#### SPECIAL FEES

Application fee, charged each applicant for admission, non-refundable..... 3.00

Scholastic-aptitude test fee (when required for admission)..... 3.00

Late registration fee, charged each student who fails to register within the designated period..... 5.00

Withdrawal fee, charged each student who preregisters and withdraws prior to the regular registration..... 5.00

Service fee, charged each student for late payment of tuition (see "Payment of Fees")..... 1.00

Reinstatement fee, charged each student who is reinstated after suspension for delinquency in fees..... 5.00

For each examination to qualify for advanced standing, and for each special examination..... 5.00

Laboratory checkout fee, charged each student in chemistry and pharmacy courses who fails to check out of the laboratory by the time set by the instructor..... 2.00

Registration in the University entitles each student to the following University privileges: (1) the issuance of three certified transcripts of record, if and when desired; (2) the services of the Placement office; (3) the use of the University library facilities, except as otherwise designated; (4) medical attention and hospital services described below. These privileges, with the exception of the issuance of transcripts, cease when the student withdraws or is dismissed from the University.

**Medical and Hospital Services.**—These services include: (1) three visits by the University physician or surgeon, office or residence (District of Columbia) in any one illness, exclusive of a specialist, surgical opera-

\* When a limited schedule is carried which extends the time of either the preparation period or the examination period to more than one year, the proportionate part of the charge may be fixed by the Comptroller.

tion, laboratory, or X-ray examinations; (2) hospitalization, including board and nursing in the University Hospital for not more than one week during any twelve-month period—the necessity to be determined by the Director of Health Administration. The duration of hospitalization period (maximum, one week) is also to be determined by the Director of Health Administration.

The student is allowed, if he so desires, to engage physicians and nurses of his own choice, but when he does so he will be responsible for the fees charged.

This medical benefit does not apply to illness or disability incurred previous to the University term or prior to payment of tuition fees.

#### PAYMENT OF FEES

All fees are payable at the Office of the Cashier, 725 Twenty-first Street NW. No student is permitted to complete registration or to attend classes until all fees are paid. Fees for each session are due in advance at the time of registration.

An auditor pays all fees chargeable to the student registered for credit except the late-registration fee.

#### WITHDRAWALS AND REFUNDS

Registrations, except for courses which extend throughout one unbroken term of sixteen weeks, are for the session, and no refunds or rebates are allowed, unless the registration is in advance and the course is dropped before the day of registration for the session involved.

A student who preregisters and withdraws prior to the date of regular registration will be charged a withdrawal fee of \$5.

If notice of withdrawal or change in schedule involving courses which extend over an unbroken term of sixteen weeks is received by the Dean on or before July 31 one-half of the fees will be cancelled. Notice to an instructor is not acceptable notice.

In no case will any part of the initial payment of tuition be refunded because of nonattendance upon classes.

Payments apply only to the session or term for which registration charges are incurred, and in no case will these payments be credited to another session or term.

Any student in chemistry who fails to check out of the laboratory on or before the date set by the instructor, unless excused by the instructor, will be charged a laboratory check-out fee of \$2. A student dropping a course before the end of the session must check out of the laboratory at the next scheduled laboratory period.

No permission to withdraw and no certificate for work done will be given a student who has not a clear financial record.



## UNIVERSITY REGULATIONS

*Students in the Summer Sessions are subject to, and are expected to familiarize themselves with, the University regulations as stated in the general catalogue.*

*Academic Credit.*—The Summer Sessions are an integral part of the University. Academic credit for completed work will be given toward the appropriate degrees in the various colleges and schools of the University in accordance with their separate regulations and requirements.

*Residence.*—Summer Sessions work may be counted in residence but the candidate for a degree must satisfy the residence requirements of the school or college concerned as stated in the general catalogue.

*Amount of Work.*—No full-time student may take more than nine credit hours of work during either session; no employed student, more than six hours. By carrying work in both sessions, a full-time student may earn as much as eighteen credit hours; an employed student, twelve hours.

In the Law School the maximum amount of work that may be taken in both sessions by a full-time student is sixteen credit hours; by an employed student, ten credit hours.

The right is reserved to drop any student whenever, in the interest of the student or the University, the Faculty deems it advisable to do so.

The University is not responsible for the loss of personal property belonging to a student.

The University and its various colleges, schools, and divisions reserve the right to modify or change the requirements, rules, and fees of the University. Such regulations shall go into force whenever the proper authorities may determine and shall apply to every student of the University.

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Detailed information concerning curricula; courses offered; admission; scholarship requirements of the individual colleges, schools, and divisions; and requirements for degrees may be obtained from the general catalogue, which is available on request at the Office of the Director of Admissions.

## VETERANS EDUCATION

Veterans who wish advice concerning the educational program of the University or the procedure for securing the educational benefits of the GI Bill should consult the Veterans Office, Building Q.

Attention is invited to the provision of law which prescribes that courses under the GI Bill must be "initiated not later than four years after either the date of his discharge or the termination of the present war, whichever is the later". For most veterans this means that the course must have been initiated by July 24, 1951.

#### AUTHORIZATION FROM THE VETERANS ADMINISTRATION

At least thirty days prior to registration the veteran should obtain from the Regional Office of the Veterans Administration, 1825 H Street NW., a Certificate of Entitlement or, if entitled to vocational rehabilitation, a letter approving training under Public Law 16 for presentation to the Veterans Office of the University at the time of registration. A photostatic copy of separation papers must accompany the application for certification. Veterans who have attended another institution under the GI Bill must obtain a Supplemental Certificate of Eligibility to present to this University.

Veterans already enrolled in the University are requested to consult the Office of Veterans Education prior to making any changes in their academic programs, because of changes in Veterans Administration regulations concerning Supplemental Certification.

#### ADMISSION

For veterans who are deficient in their regular requirements for admission, but who have been found by educational and psychological tests to be able to undertake college work, the University has made certain modifications in the entrance requirements.

*Advanced Standing.*—To receive credit for service schools, veterans should submit to the Director of Admissions photostatic copies of service records indicating courses successfully completed with sufficient identification of the course to enable the Admissions Office to locate it in the Guide to the Evaluation of Educational Experience in the Armed Forces.

#### CONTINUOUS REGISTRATION

By carrying a continuous program throughout the fall, spring, and summer terms, the veteran may complete a four-year college course in three calendar years with no interruption in his subsistence payments.

#### STUDENT LIFE

##### SOCIAL AND RECREATIONAL PROGRAM OF THE UNIVERSITY

Provision is made for the social and recreational side of student life during the Summer Sessions. The Annual Summer Sessions Party opens the season and is followed by Friday Evening Starlight Dances on the Lisner Terrace. Teas are arranged so that new students will have a chance to become acquainted with their fellow students.

The city of Washington affords a variety of recreational opportunities. Wooded trails for hiking, riding, and picnicking wind through Rock Creek Park.



LIVING ACCOMMODATIONS

*Women Students.*—Women students under twenty-one years of age who are enrolled for six or more credit hours a session of academic work in the University must have their residences approved by the Director of Activities for Women before their registrations can be completed. In the Hattie M. Strong Residence Hall for Women, single rooms are \$35 a month; double rooms are \$28 a month a person. Meals are served at the Student Union. Applications for rooms should be made well in advance. Forms for application, together with detailed information, may be obtained from the Director of Activities for Women, Woodhull House, 2033 G St. NW.

*Men Students.*—Welling Hall provides double room facilities for 102 students. Rooms rent for \$24 a month a person. Single and double rooms are provided in Draper Hall. Single rooms are \$17 a month; double rooms are \$13 a month a person. The University maintains a limited number of temporary apartment units for married veteran students and their families. Meals are served at the Student Union. Application forms for room reservation may be obtained from the Director of Activities for Men, Building R, 2027 H Street NW.

Information concerning private rooming and boarding facilities near the University, for women students twenty-one years of age or older and for men students, may be obtained at the offices of the Director of Activities for Women and the Director of Activities for Men, respectively. The reservation of rooms in private houses must be made by students.



THE COLLEGES, SCHOOLS, AND DIVISIONS





## THE COLLEGES, SCHOOLS, AND DIVISIONS

Information concerning specific requirements for degrees is omitted from this bulletin. For such information, the student is referred to the general catalogue.

### THE JUNIOR COLLEGE

The Junior College includes the first two years of college work. Its curricula are intended to continue the studies of a general cultural nature begun in secondary school, and to lay a foundation for the more specialized work which is to follow.

The Junior College also provides the preprofessional work required for admission to the schools of Pharmacy, Education, and Government, and the first two years of the preprofessional work required for admission to the schools of Medicine and Law.

In addition it provides a two-year terminal curriculum in Secretarial Studies and a two-year terminal curriculum in Accounting for students who wish strictly vocational training in these subjects.

### THE DEGREE OF ASSOCIATE IN ARTS

The Junior College offers work leading to the degree of Associate in Arts.

### ENTRANCE REQUIREMENTS

An acceptable certificate of graduation from an accredited secondary school is required. The acceptability of the certificate depends upon the student's character and the quality of his work.

### COLUMBIAN COLLEGE

Columbian College, the senior college of liberal arts and sciences, comprises the work of the junior and senior years and the Master of Arts and Master of Science disciplines.

### THE DEGREES

Columbian College offers work leading to the following degrees: Bachelor of Arts, Bachelor of Science, Master of Arts, and Master of Science. In cooperation with the School of Medicine, Columbian College offers work leading to the combined degrees of Bachelor of Arts and Doctor of Medicine.

**UNDERGRADUATE MAJORS**

Curricula leading to the degree of Bachelor of Arts are available in the following major fields:

American Thought and Civilization	Latin American Civilization and Culture
Art:	Mathematics
Appreciation	Philosophy
Drawing and Painting	Physics
Biology	Political Science
Botany	Psychology
Chemistry	Religion
Economics	Sociology
English Literature	Spanish American Literature
French Literature	Spanish Literature
Geography	Speech:
Germanic Languages and Literatures	Public Speaking
History	Theatre
Journalism:	Speech Correction
News-Editorial	Statistics
Public Relations	Zoology

Curricula leading to the degree of Bachelor of Science are available in the following major fields:

Biology	Physics
Botany	Statistics
Chemistry	Zoology
Mathematics	

**GRADUATE FIELDS**

Graduate work leading to the degree of Master of Arts or Master of Science is offered in the following fields:

American Literary and Cultural	History
History	International Relations
Anatomy	Latin American Civilization and Culture
Bacteriology	Mathematics
Biochemistry	Pharmacology
Biology	Philosophy
Botany	Physics
Chemistry	Physiology
Dramatic Art	Political Science
Economics	Psychology
English and American Literature	Sociology
English Literature	Spanish American Literature
French Literature	Spanish Literature
Geography	Statistics
Germanic Languages and Literatures	Zoology

In addition, programs can be arranged in combined fields subject to the approval of the division or divisions concerned.



#### ENTRANCE REQUIREMENTS

For the Bachelor's degrees, the degree of Associate in Arts based on the appropriate curriculum in the Junior College, or the equivalent, is required. Scholarship requirements may be somewhat higher than those for graduation from the Junior College. For the Master's degrees, an approved Bachelor's degree from an accredited institution and a transcript of studies previously pursued, showing appropriate distribution of courses and a superior quality of work in the major field, are required.

#### THE GRADUATE COUNCIL

The Graduate Council offers work leading only to the degree of Doctor of Philosophy. Because the basis for work under the Graduate Council is primarily creative research, regular study in specific courses is considered quite incidental and is therefore not emphasized in connection with the curricula of the Summer Sessions. A student wishing to work under the disciplines of the Graduate Council will consult the Chairman of the Graduate Council for information concerning credentials and candidacy.

A pamphlet describing details of the Graduate Council program, together with a current list of fields of research offered by the Council, will be sent upon request to the Office of the Graduate Council.

#### THE LAW SCHOOL

The Law School offers work leading to the following degrees: Bachelor of Laws, Juris Doctor, Master of Laws, Master of Comparative Law, and Doctor of Juridical Science.

#### ENTRANCE REQUIREMENTS

*For the Degree of Bachelor of Laws.*—A Bachelor's degree awarded upon completion of a four-year course in an approved college or university is required. All pre-legal work must be of a satisfactory quality and distribution. No student will be admitted who has been in attendance at another law school and who is ineligible to return to that school in good standing. From the applicants, a selection will be made by the Committee on Admissions.

The Juris Doctor degree is conferred as a recognition of completion with high rank of the full course, including experience in research and legal authorship. A student does not register as a candidate for this degree until his last year in the Law School.

*For the Degree of Master of Laws.*—A Bachelor of Arts or equivalent degree from an approved college or university and a Bachelor of Laws or equivalent degree from a member school of the Association of American Law Schools are required. Candidates for admission must have

attained an average grade on all work done for the Bachelor of Laws degree equivalent to the relative position of a *B* average in the standards of grading at this Law School, except that, in the discretion of the Committee on Graduate Studies, applicants otherwise eligible may be admitted on proof of experience and attainment as an alternative.

*For the Degree of Master of Comparative Law.*—The following are required: (1) the successful completion of and graduation from a course in arts, philosophy, letters or sciences, equivalent to graduation from a gymnasium, lycee, or lyceo (junior college); and (2) graduation in law from a recognized foreign university where training was in civil law.

*For the Degree of Doctor of Juridical Science.*—The following are required: (1) the degree of Juris Doctor from this Law School; or (2) the degree of Bachelor of Arts from an approved college, the degree of Bachelor of Laws or the equivalent, earned with high rank, from a member school of the Association of American Law Schools, and outstanding capacity for scholarly work in the field of law.

*Unclassified Students.*—The following applicants may, at the discretion of the Dean, be admitted as unclassified students:

1. Those who, though eligible, do not desire to be degree candidates.
2. Those who are in good standing as degree candidates in other law schools which are members of the Association of American Law Schools.
3. Those who are not eligible for admission as candidates for degree but are members of the bar.

Unclassified students are required to participate in the work of the course and take examinations. Courses taken by unclassified students will not be credited toward degrees at this Law School.

#### THE SCHOOL OF EDUCATION

The School of Education prepares teachers, supervisors, and administrators for educational service and offers opportunities to teachers of experience to extend their education. The schedule of courses is arranged to meet the needs of employed students as well as those able to devote full time to their studies. It offers both graduate and undergraduate work.

#### THE DEGREES

The School of Education offers work leading to the following degrees: Bachelor of Arts in Education, Bachelor of Science in Home Economics, Bachelor of Science in Physical Education, Master of Arts in Education, and Doctor of Education.

#### ENTRANCE REQUIREMENTS

*For the Bachelor's Degrees.*—The satisfactory completion of two years of approved college work, or graduation from an approved two-year normal school, or the equivalent, is required.

*For the Master's Degree.*—A Bachelor's degree from an accredited college, or the equivalent, and the approval of the Committee on Admissions and Advanced Standing are required.

*For the Doctor's Degree.*—A Master's degree from an accredited college, or the equivalent, and the approval of the Faculty of the School of Education are required.

## THE SCHOOL OF GOVERNMENT

### THE DEGREES

The School of Government offers work leading to the following degrees: (1) Bachelor of Arts in Government with a major in Foreign Affairs, Statistics, Accounting, and Business Administration; (2) Master of Arts in Government with a major field in Foreign Affairs, Economic Policy, Accounting, Business and Economic Statistics, or Vocational Counseling; (3) Master of Arts in Public Administration with a major in General Administration or Governmental Fiscal Administration; (4) Master of Arts in Personnel Administration; (5) Master of Business Administration; (6) Doctor of Business Administration.

### ENTRANCE REQUIREMENTS

*For the Bachelor's Degree.*—The satisfactory completion of two years of approved college work is required for admission to study for this degree.

*For the Master's Degrees.*—An approved Bachelor's degree based on the proper training for the field selected by the student for graduate study is required.

*For the Degree of Doctor of Business Administration.*—An applicant for this degree must have the degree of Master of Business Administration, or the equivalent, and must pass qualifying examinations in Statistics and Accounting, in lieu of the standard language examinations.

### FOREIGN SERVICE REVIEW COURSE

The University will offer a ten-week non-credit Review Course, beginning in June, in preparation for the written Foreign Service Examination to be given by the Department of State in September 1952. To be eligible to take this examination, the applicant (1) shall be over 21 and under 30 years of age as of July 1, 1952; (2) shall have been a citizen of the United States for at least 10 years; (3) shall not be married to an alien; (4) shall have an adequate knowledge of at least one foreign language.

Enrollment in the Foreign Service Review Course is limited and admission is on a competitive basis. Applicants must have a Bachelor's degree in the field of the social sciences and a superior academic record.



Only in exceptional cases is admission granted to college seniors and graduates in other fields.

Application for admission must be received by May 25, 1952.

The cost of this course, including library and medical facilities and other privileges of the University, is \$180, which in the case of veterans is covered by the educational benefits of the GI Bill.

For further information and application forms, write to the Director, Foreign Service Review Course, School of Government.

#### THE DIVISION OF UNIVERSITY STUDENTS

The Division of University Students makes the work of the University, in its several colleges and schools, accessible to students 21 years of age or over who are not working toward a degree in this University.

Candidates for degrees in other colleges and universities attending the Summer Sessions of the University are registered in the Division of University Students.

Adequate preparation to undertake the desired courses is required.

#### THE DIVISION OF SPECIAL STUDENTS

This is a non degree-granting division of the University in which the Director of Admissions may authorize the placement of students in the process of making up entrance deficiencies to degree-granting colleges and schools of the University.

Complete credentials must be submitted and evaluated before a program of studies is approved.

#### COLLEGE OF GENERAL STUDIES

The College of General Studies offers off-campus credit and non-credit courses in any field in which there is sufficient demand and for which instructional facilities can be made available. These courses will meet at the time and place most convenient for the students enrolled and may begin at any time of the year.

The College also provides a degree-granting division for mature adults whose background and experience is such that they should be matriculated in a division designed to meet their special needs.

The Division of Community Services provides a program of community educational services such as the George Washington University Reading Clinic and the Government Intern Scholarship Program.

#### ENTRANCE REQUIREMENTS

*Off-Campus Credit Courses.*—A simplified procedure for admission and registration in off-campus courses is conducted at the first meeting of the class. Transcripts of previous academic work are not required. Registration is restricted to those whose qualifications would indicate that they are able to carry the course successfully. Admission to an

off-campus course does not constitute admission to degree candidacy in the University.

*Off-Campus Non-Credit Courses.*—In general, off-campus non-credit courses will be open to any individual interested in enrolling. When a non-credit course is organized at the request of some particular agency or group, admission may be restricted to the students recommended by the sponsoring organization. A limit on the size of classes may have to be imposed in order to maintain the quality of instruction.





COURSES OF INSTRUCTION



## COURSES OF INSTRUCTION

### EXPLANATION OF COURSE NUMBERS

*An odd number preceding the name of the course indicates that the course is offered in the first session; an even number, that it is offered in the second session. The letter "x" following an odd number (e.g., 5x) indicates that the course, normally given in the first session, is given in the second session. The letter "x" following an even number (e.g., 6x) indicates that the course, normally given in the second session, is given in the first session. The letter "S" following the number of a course indicates that the course is given in one term of sixteen weeks.*

*First-group courses.*—Courses numbered from 1 to 100, are planned for the student in the freshman or sophomore year. With the approval of the adviser and the dean, they may also be taken by a junior or senior. In certain instances, they may be taken by a graduate student to make up undergraduate deficiencies or as prerequisite to advanced courses, but they may not be credited toward a higher degree.

*Second-group courses.*—Courses numbered from 101 to 200, are planned for the student in the junior or senior year. They may be credited toward higher degrees only when registration for graduate credit has been approved at the beginning of the course by the dean responsible for the graduate work and by the officer of instruction, and when the completion of additional work has been certified by the officer of instruction.

*Third-group courses.*—Courses numbered from 201 to 300, are planned primarily for the graduate student. They are open, with the approval of the officer of instruction, to the qualified senior; they are not open to the Junior College student.

### INDICATION OF THE AMOUNT OF CREDIT

The number of hours of credit given for the satisfactory completion of a course is in most cases indicated in parentheses after the name of the course.

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The University reserves the right to change or withdraw any of the courses of instruction listed.



## ACCOUNTING

## FIRST SESSION

- 1** *Introductory Accounting* (3) Kennedy, Steele  
Basic principles underlying accounting records used by single proprietorships and partnerships; preparation of the work sheet and financial statements. Section A: 8:10 A.M.; section B: Mon., Wed., and Fri., 7:10 to 8:35 P.M.
- 137** *Financial Statement Analysis* (3) Kennedy  
Methods and techniques of preparing, analyzing, and interpreting financial statements for the guidance of operating executives, directors, stockholders, and creditors; determination and interpretation of trends and ratios. Prerequisite: Accounting 1-2. 9:10 A.M.
- 147** *Cost Accounting* (3) Kurtz  
Study of the theory and purpose of industrial cost accounting; treatment of the systems of cost control and determination; and the analysis and interpretation of cost data. Emphasis will be on job order cost accounting. Prerequisite: Accounting 1-2. 10:10 A.M.
- 151** *Intermediate Accounting* (3) Kurtz  
Problems relating to asset valuation and income determination and the recording of assets and liabilities; the treatment of depreciation, depletion, amortization, funds, and reserves is stressed. Prerequisite: Accounting 1-2. 6:10 P.M.
- 153** *Advanced Accounting* (3) Kurtz  
Intensive study of consolidated statements, statement of affairs, realization and liquidation reports, estate and trust accounting, and application of actuarial science to accounting. Prerequisite: Accounting 151-52. Tues., Thurs., and Fri., 7:10 to 8:35 P.M.
- 282x** *Advanced Accounting Theory* (3) Kennedy  
An intensive study of advanced accounting principles and concepts and of recent theories in connection with the valuation of assets and the determination of income. Prerequisite: eighteen hours of Accounting, or permission of instructor. Mon. and Wed., 6:10 to 8:30 P.M.

## SECOND SESSION

- 2** *Introductory Accounting* (3) Bell  
Study of basic principles underlying accounting records used by corporations; introduction to cost accounting and valuation and income determination problems. Prerequisite: Accounting 1. Section A: 8:10 A.M.; section B: Mon., Wed., and Fri., 7:10 to 8:35 P.M.
- 102** *Business Budgeting* (3) Buckler  
Study of the principles, preparation, and administration of a business budget, with emphasis on the importance of the budget to management. Prerequisite: Accounting 1-2. Mon., Wed., and Thurs., 7:35 to 9:00 A.M.

- 111x *Federal Taxation* (3) Bobys  
Study of the accounting and reporting requirements of federal taxation, with emphasis on income and social security taxes; business management problems presented by these taxes will also be considered. Prerequisite: Accounting 1-2. 9:10 A.M.
- 135x *Managerial Accounting* (3) Steele  
Study of the accounting system with special reference to the use of financial and operating records as a tool of management; emphasis is placed on managerial internal accounting control, accounting reports, and the use of budgets and cost data in directing and controlling the business. Prerequisite: Accounting 1-2 or permission of the instructor. Mon., Wed., and Thurs., 7:10 to 8:35 P.M.
- 152 *Intermediate Accounting* (3) Bell  
Accounting for the organization, financing, operation, and dissolution of partnerships and corporations. Prerequisite: Accounting 151. 6:10 P.M.

## ART

## FIRST SESSION

- 71 *Introduction to the Arts in America* (3) Kline  
Painting, sculpture, architecture, furniture, music, and folk arts. 5:10 P.M.
- 72x *Introduction to the Arts in America* (3) Kline  
Painting, sculpture, architecture, furniture, music, and folk arts. Continuation of Art 71. 6:10 P.M.
- 177 *Landscape* (3) Weisz  
Drawing, painting, and composition in all mediums. Classes conducted out of doors. In inclement weather classes will meet in the studios of the Corcoran School. Morning, afternoon, and evening sections. Section A: 9:00 to 12:00 A.M.; section B: 1:00 to 4:00 P.M.; section C: 5:30 to 8:30 P.M.
- 178x *Figure, Still Life, and Composition* (3) Browne  
Drawing and painting in all mediums. Classes conducted indoors. Section A: 9:00 to 12:00 A.M.; section B: 1:00 to 4:00 P.M.

## BIOLOGY \*

## FIRST SESSION

- I *Survey in Biology* (3) Bowman  
A review of the plant and animal kingdoms, with emphasis upon the interrelations and interdependence of living things. Material fee, \$5. Lecture—Tues. and Thurs., 1:10 P.M.; laboratory—Tues. and Thurs., 2:10 to 4:00 P.M.; field trips—Wed. and Fri., 1:10 to 4:00 P.M.

\* See also the departments of Botany and Zoology.

115 *Cytology* (3)

Bowman

A study of plant and animal cells, with emphasis on the nucleus and chromosomes and their role in heredity, and some training in the preparation of materials for study. Material fee, \$6. Prerequisite: one year of college work in Biology, Botany, or Zoology. Lecture—Mon. and Wed., 6:10 P.M.; recitation—Mon. and Wed., 7:10 P.M.; laboratory—Tues. and Thurs., 6:10 to 9:00 P.M.

211 *Research in Cytology* (arr.)

Bowman

Hours and credits to be arranged.

299 *Thesis* (3)

Bowman

## SECOND SESSION

2 *Survey in Biology* (3)

Munson

A review of the fields of evolution and heredity, public health, and the conservation of natural resources. Material fee, \$5. Lecture—Tues. and Thurs., 1:10 P.M.; laboratory—Tues. and Thurs., 2:10 to 4:00 P.M.; field trips—Wed. and Fri., 1:10 to 4:00 P.M.

146 *Environmental Measurements* (3)

Cantlon

Studies in the problems encountered in measuring various environmental factors in terrestrial and aquatic habitats. Emphasis will be placed upon techniques, but the practical applications of environmental measurements will be discussed as the work progresses. Prerequisite: Biology 1, Botany 1, or Zoology 1. Lecture—Tues. and Thurs., 6:10 P.M.; laboratory—Tues. and Thurs., 7:10 to 9:00 P.M. and additional periods to be arranged.

## BOTANY \*

## FIRST SESSION

1 *Structure and Function of the Flowering Plant* ‡ (3)

Yocum

The typical plant as a working mechanism, with the emphasis on the general biological significance of plant physiology. Material fee, \$5. Lecture—Tues. through Fri., 11:10 A.M.; laboratory—Tues. through Fri., 12:10 to 1:00 P.M.

295 *Research* (arr.)

The Staff

Hours, credits, and fees to be arranged.

299 *Thesis* (3)

The Staff

## SECOND SESSION

2 *Survey of the Plant Kingdom* ‡ (3)

Cantlon

Study of the different kinds of plants with emphasis on the evolution of the plant kingdom; practice in identifying flowering plants. Material fee, \$5. Lecture—Tues. through Fri., 11:10 A.M.; laboratory—Tues. through Fri., 12:10 to 1:00 P.M.

\* See also the departments of Biology and Zoology.

‡ Botany 1 and 2 are prerequisites to all other courses in Botany.



- 296 *Research* (arr.) The Staff  
Hours, credits, and fees to be arranged.
- 300 *Thesis* (3) The Staff

## BUSINESS ADMINISTRATION

## FIRST SESSION

- 131 *Business Finance* (3) Welshans  
Basic principles involved in the financing of business enterprises. Prerequisite: Accounting 1-2. 11:10 A.M.
- 138x *Investments* (3) Welshans  
Analysis of factors of investment credit with application to different types of investments, proper selection of investments for various classes of investors, regulation. Prerequisite: Accounting 1-2. 7:10 P.M.
- 141 *Principles of Marketing* (3) Barnewall  
A survey of marketing, giving particular attention to consumption, retailing, wholesaling, and sales management; the entire marketing structure and its relation to the total economy. Prerequisite: Economics 1-2. 10:10 A.M.
- 145 *Sales Management* (3) Barnewall  
Organization of the sales department, sales planning and forecasting, quotas, territories, performance standards, and analysis and control of distribution costs. Prerequisite: Business Administration 141. 6:10 P.M.
- 148x *Wholesaling* (3) Barnewall  
The wholesale function; organization and types; economics of wholesale authorities. 7:10 P.M.
- 231 *Corporate Financial Problems* (3)  
Financial practice in promotion, consolidation, and mergers; capital structure adjustments; and reorganization. Mon. and Wed., 8:10 to 10:00 P.M.
- 291 *Seminar in Business Management* (3) Jessup  
Research on various phases of management, including business, industrial, and personnel management. Tues. and Thurs., 8:10 to 10:00 P.M.
- 296x *Seminar in Controllershship* (3) Jessup  
Research on advanced problems of the controller, in all types of business organization and the Federal Government. Mon. and Wed., 8:10 to 10:00 P.M.
- 299 *Thesis* (3) The Staff  
Hours to be arranged.

## SECOND SESSION

- 101x *Business Organization and Combination* (3) Owens  
Simple and interrelated forms of business enterprise and their control by government. 9:10 A.M.

- 102 *Business Management* (3) Owens  
The management movement, organization of an enterprise, principles of management and their application to various departments of an enterprise. 10:10 A.M.
- 105x *Personnel Management in Industry* (3) Johnson  
Organization and work of the personnel department, human relations in business. 7:10 P.M.
- 113x *Real Estate* (3) Otto  
Fundamentals of real estate practice; leasing and property management; valuation, financing, and taxation. 6:10 P.M.
- 198 *Problems in Business Management* (3) Otto  
Principles and methods of management illustrated by cases drawn from business and industry. Prerequisite: Business Administration 102. Open to seniors. 11:10 A.M.
- 232 *Seminar in Business Finance* (3) Otto  
Research in advanced financial problems. Mon. and Wed., 8:10 to 10:00 P.M.
- 292 *Seminar in Business Management* (3) Owens  
Research on various phases of management, including business, industrial, and personnel management. Tues. and Thurs., 8:10 to 10:00 P.M.
- 300 *Thesis* (3) The Staff  
Hours to be arranged.

## CHEMISTRY

## FIRST SESSION

- †11 *General Chemistry* (4) Naeser  
This course is the first half of a full course. The second half, Chemistry 12, must be completed before credit is allowed. Laboratory fee, \$15. Lecture—Tues. through Fri., 1:10 P.M. Laboratory—Tues. and Thurs., 3:10 to 5:00 P.M.; and Wed. and Fri., 2:10 to 4:00 P.M. Recitation—Tues. and Thurs., 2:10 P.M.
- 21 *Qualitative Inorganic Analysis* (4) Vincent  
Theoretical and practical study of methods of separating and identifying the more common cations and anions using semi-micro techniques. Prerequisite: Chemistry 12. Laboratory fee, \$15. Lecture—Tues. through Fri., 1:10 P.M. Laboratory—Tues. through Fri., 2:10 to 5:00 P.M.
- †151 *Organic Chemistry* (4) Sager  
Chemistry of the carbon compounds. Semi-micro and macro techniques are employed in the laboratory. Prerequisite: Chemistry 21. This course is the first half of a full course. The second half, Chem-

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

istry 152, must be completed before credit is allowed. Lecture (3), Laboratory (1). Laboratory fee, \$9. Lecture—Mon., Wed., and Fri., 1:10 and 3:10 P.M. Laboratory—Tues. and Thurs., 1:10 to 4:00 P.M.

- 295 *Research* (arr.) The Staff  
Research on problems approved by the staff. Open to qualified students with advanced training. Laboratory fee, \$6 a credit hour. Hours and credits to be arranged.

- 299 *Thesis* (3) The Staff  
Hours to be arranged. Laboratory fee, \$15.

## SECOND SESSION

- 12 *General Chemistry* (4) Harkness  
Prerequisite: Chemistry 11. Laboratory fee, \$15. Lecture—Tues. through Fri., 1:10 P.M. Laboratory—Tues. and Thurs., 3:10 to 5:00 P.M.; and Wed. and Fri., 2:10 to 4:00 P.M. Recitation—Tues. and Thurs., 2:10 P.M.

- 22 *Quantitative Inorganic Analysis* (4) Wood  
The principles of gravimetric and volumetric analysis. Prerequisite: Chemistry 21 or the equivalent. Laboratory fee, \$15. Lecture—Tues. through Fri., 1:10 P.M. Laboratory—Tues. through Fri., 2:10 to 5:00 P.M.

- 152 *Organic Chemistry* (4) Wrenn  
A continuation of Chemistry 151. Prerequisite: Chemistry 151. Lecture (2), Laboratory (2). Laboratory fee, \$15. Lecture—Tues. through Fri., 1:10 P.M. Laboratory—Tues. through Fri., 2:10 to 5:00 P.M.

- 296 *Research* (arr.) The Staff  
Continuation of Chemistry 295. Laboratory fee, \$6 a credit hour. Hours and credits to be arranged.

- 300 *Thesis* (3) The Staff  
Hours to be arranged. Material fee, \$15.

## ECONOMICS \*

## FIRST SESSION

- 1 *Introductory Economics* \* (3) ———, Skinner  
Survey of major economic institutions and economic problems in contemporary society. Section A: 9:10 A.M.; section B: 6:10 P.M.

- 102X *History of Economic Thought* (3) Burns  
Economic doctrines since the mercantilist writers; the history of the major schools of thought; influence of changing problems on theory. 9:10 A.M.

- 121 *Money and Banking* (3) Miller  
Theory of money, credit, and banking; commercial banking and the

\* Economics 1-2 is prerequisite to all other courses in Economics.



Federal Reserve System; other financial institutions; international aspects of money; current financial problems. 7:10 P.M.

- 166x *Comparative Systems of Economic Reform* (3) Watson  
Analysis of the major theories of economic and social reform, with special attention to their origins and backgrounds. 10:10 A.M.
- 181 *International Economics* (3) Miller  
Survey of world economics; theories of international trade; analysis of international economic problems; the international organizations. 6:10 P.M.
- 213 *Economic Thought in the Twentieth Century* (3) Burns  
The writings of the principal economists since Marshall. Mon. and Wed., 5:10 to 7:00 P.M.
- 215 *Managerial Economics* (3) Welshans  
Analysis of price, production, and inventory policies of business firms. Tues. and Thurs., 8:10 to 10:00 P.M.
- 216x *The Theory of Distribution* (3) Miller  
The classical, marginal, and modern theories of distribution; Pareto's law and the problem of personal distribution. Mon. and Wed., 8:10 to 10:00 P.M.

## SECOND SESSION

- 2 *Introductory Economics* \* (3) Coogan, Fackler  
Continuation of Economics 1. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 101x *Economic Theory* (3) Coogan  
Introduction to formal economic theory; advanced analysis of demand, supply, and price relations. 10:10 A.M.
- 109x *Distribution Theory and Welfare Economics* (3) Schmidt  
Advanced economic theory with emphasis on income distribution and the literature on welfare economics. 5:10 P.M.
- 133x *The Economy of the Soviet Union* (3) Coogan  
Development and main features of the economic life of the Soviet Union. 11:10 A.M.
- 182 *International Economics* (3) Schmidt  
Continuation of Economics 181. 6:10 P.M.
- 251x *Theories of Economic Development* (3) Schmidt  
Growth and change in economic activity; capital accumulation; innovations in technology and business organization. Mon. and Wed., 7:30 to 9:30 P.M.

## EDUCATION

## FIRST SESSION

- 109 *Learning and Teaching* (3) Ruffner  
For the general student as well as the prospective teacher. Nature of learning approached through the study of actual classroom situations. Mon. through Thurs., 2:10 P.M.; field work—four hours a week to be arranged.
- 121 *School and Society* (3) Angel  
For the general student as well as the prospective teacher. The local, national, and international roles of education; cooperation of the school with other community agencies. Mon. through Thurs., 5:10 P.M.; field work—four hours a week to be arranged.

## SECOND SESSION

- 110 *Learning and Teaching* (3)  
For the general student as well as the prospective teacher. Nature of teaching approached through the study of actual classroom situations. Mon. through Thurs., 2:10 P.M.; field work—four hours a week to be arranged.
- 122 *School and Society* (3)  
For the general student as well as the prospective teacher. Organization and operation of schools; principles and functions. Mon. through Thurs., 5:10 P.M.; field work—four hours a week to be arranged.

## PRE-SESSION

June 9 to 27

- 212 *Evaluation in Education* (3) Ruffner  
Concept of evaluation; relationship between evaluation of ends and means; steps in the evaluation of learning outcomes. Each student develops a solution to an evaluation problem of his choice as the course progresses. June 9 to 13, 4:10 to 6:00 P.M.; conference hour—3:10 P.M. June 16 to 27, 9:10 to 11:00 A.M.; conference hour—11:00 A.M.
- 219 *Recent Developments in Elementary Education* (3) Burnett  
New areas of emphasis, changing techniques of working with children, curriculum trends, review of recent literature. June 9 to 13, 4:10 to 6:00 P.M.; conference hour—3:10 P.M. June 16 to 27, 9:10 to 11:00 A.M.; conference hour—11:00 A.M.
- 233 *Audio-visual Education* (3) Johnson  
Selection and use of audio-visual aids; management of materials and equipment. Material fee, \$5. June 9 to 13, 4:10 to 6:00 P.M.; laboratory—7:10 to 8:00 P.M. June 16 to 27, 8:00 to 10:00 A.M.; laboratory—10:10 A.M. to 12:00 noon.

## SPECIAL SIX-WEEK SESSION

## First Half—June 30 to July 18

- 116 *Elementary School Social Studies* (3) Burnett  
Content and methods of teaching. 2:10 to 4:00 P.M.; conference hour—4:10 P.M.
- 231 *Secondary School Classroom Procedures* (3) Bish  
Survey of current classroom practices with particular attention to teaching aids, review of recent literature. 2:10 to 4:00 P.M.; conference hour—4:10 P.M.

## Second Half—July 21 to August 8

- 125 *Elementary School Reading* (3) Coleman  
Developmental and remedial approaches to reading problems. Observation in the Reading Clinic. 2:10 to 4:00 P.M.; conference hour—4:10 P.M.
- 254 *The Junior High School* (3) Bish  
Emphasis upon the functioning of core programs. 2:10 to 4:00 P.M.; conference hour—4:10 P.M.

## Full Period—June 30 to August 8

- 205 *The Curriculum* (3) Burnett  
General principles and practices of curricular development. Mon. and Wed., 6:40 to 9:00 P.M.; conference hour—Mon. and Wed., 6:00 P.M.
- 209 *Child Growth and Development* (3) Indorf  
Basic factors in human growth and development and their relation to learning and teaching. Related practical experience in studying children with class analyses of procedures and results. 8:00 to 9:00 A.M.; conference hour—Mon. 9:10 A.M. and Wed. 10:20 A.M.
- 218 *Contemporary Problems in Education* (3) Jarman  
Social foundations of education—a study of the forces that shape the policies and offerings of the school. 9:10 to 10:00 A.M.; conference hour—Tues. 10:20 A.M. and Thurs. 11:30 A.M.
- 255 *Secondary Education* (3) Root  
Current proposals for the reorganization of secondary education. 11:30 A.M. to 12:30 P.M.; conference hour—Tues. 10:20 A.M. and Thurs. 9:10 A.M.
- 272 *The Teacher and School Supervision* (3) Fox  
Nature, organization, human relationships, and techniques. 10:20 to 11:20 A.M.; conference hour—Tues. 9:10 A.M. and Thurs. 2:00 P.M.
- 281 *Group Procedures in Education* (3) Ruffner  
Theory, practice, evaluation, and application to all educational levels. Tues. and Thurs., 6:40 to 9:00 P.M.; conference hour—Tues. and Thurs., 6:00 P.M.



285 *Extra-classroom Activities* (3) Root  
Home-room functions, student self-government, clubs, assemblies, school publications. Mon. and Wed., 6:40 to 9:00 P.M.; conference hour—Mon. and Wed., 6:00 P.M.

295 *Educational Research Methods and Procedures* (3) Fox  
Required of all Master's candidates following Plan 2. 1:00 to 2:00 P.M.; conference hour—Mon. and Wed., 2:10 P.M. and Fri. 9:10 A.M.

297 *Reading in Education* (1) The Staff  
To assist those preparing for the comprehensive examination. No credit toward degree requirements. 4:10 P.M.

Psychology 228 *Seminar: Techniques of Counseling* (3) Dreese  
Specific types of vocational, educational, and personal counseling problems approached through the case method. Prerequisite: recent previous course in counseling and guidance and familiarity with individual analysis methods. 10:20 to 11:20 A.M.

299-300 *Thesis* (3-3) The Staff

#### POST-SESSION

August 11 to 29

215 *Education of the Exceptional* (3) Indorf  
For classroom teachers. A survey of current problems in the education and guidance of exceptional pupils. Nature and needs of those physically, mentally, or emotionally handicapped. Resources for help in correction, diagnosis, therapy, education, and guidance. 9:10 to 11:00 A.M.; conference hour—11:10 A.M.

256 *Secondary Education* (3) Root  
Current problems in each of the subject-matter fields. 9:10 to 11:00 A.M.; conference hour—11:10 A.M.

#### ENGLISH \*

##### ENGLISH COMPOSITION

##### FIRST SESSION

A *English Practice* (3) Moore and Staff  
Instruction, drill, and exercises in grammar, vocabulary, spelling, and mechanics in general; instruction and exercises in composition and reading. This course is designed to prepare students for English 1. 8:10 P.M.

B *English for Foreign Students* (3) Allee  
A course in reading and writing designed to prepare the student for

\* Before students are registered in English 1, they are tested in the minimum essentials of vocabulary, spelling, grammar, standard usage, and writing skill. Those students who show marked superiority may, upon passing further tests, be exempted from one or both terms of the Freshman English course; those who are inadequately prepared for English 1 will be assigned to English A.

English 1-2 is prerequisite to all other courses in English.

English 1. Special attention is given to spelling, syntax, grammar, idiom, and vocabulary. 7:10 P.M.

- 1 *Freshman English*\* (3) Moore and Staff  
Review of grammar, exercises in composition, readings. Section A: 9:10 A.M.; section B: 10:10 A.M.; section C: 11:10 A.M.; section D: 7:10 P.M.

- 2X *Freshman English* (3) Moore and Staff  
Continuation of English 1. Section A: 8:10 A.M.; section B: 6:10 P.M.

#### SECOND SESSION

- A *English Practice* (3) Moore and Staff  
Instruction, drill, and exercises in grammar, vocabulary, spelling, and mechanics in general; instruction and exercises in composition and reading. This course is designed to prepare students for English 1. 6:10 P.M.

- 1X *Freshman English*\* (3) Moore and Staff  
Review of grammar, exercises in composition, readings. 8:10 P.M.

- 2 *Freshman English*\* (3) Moore and Staff  
Continuation of English 1. Section A: 11:10 A.M.; section B: 7:10 P.M.

#### ENGLISH LITERATURE‡

##### FIRST SESSION

- 51 *Introduction to English Literature* (3) Allee, Day  
A historical survey. From beginnings to 1800. Section A: 12:10 P.M.; section B: 6:10 P.M.

- 135 *Shakespeare* (3) Tupper  
10:10 A.M.

- 152X *The Romantic Movement* (3) Day  
Chief romantic poets. 7:10 P.M.

- 184X *The English Drama* (3) Tupper  
A historical survey from 1660 to the present day. 9:10 A.M.

- 222X *The Age of Chaucer* (3) Stone  
The intellectual background of Chaucer. Mon. and Thurs., 8:10 to 10:00 P.M.

##### SECOND SESSION

- 52 *Introduction to English Literature* (3) Shepard, Linton  
A historical survey. Literature since 1800. Section A: 12:10 P.M.; section B: 6:10 P.M.

\* Before students are registered in English 1, they are tested in the minimum essentials of vocabulary, spelling, grammar, standard usage, and writing skill. Those students who show marked superiority may, upon passing further tests, be exempted from one or both terms of the Freshman English course; those who are inadequately prepared for English 1 will be assigned to English A.

English 1-2 is prerequisite to all other courses in English.

‡ English 51-52, 71-72, or 91-92 is prerequisite to all second-group courses.

- 162 *Victorian Literature* (3) Shepard  
Poetry from 1830 to 1900. 7:10 P.M.
- 166 *The Twentieth Century* (3) Linton  
The novel and drama since 1900. 10:10 A.M.

## AMERICAN LITERATURE\*

## FIRST SESSION

- 71 *Introduction to American Literature* (3) Cole  
A historical survey. From beginnings to 1860. 10:10 A.M.
- 175 *American Drama* (3) Cole  
Historical and critical study of significant plays and forms, from beginnings to 1920. 11:10 A.M.

## SECOND SESSION

- 72 *Introduction to American Literature* (3) Coberly  
A historical survey. Literature since 1860. 10:10 A.M.
- 176 *American Drama* (3) Coberly  
Historical and critical study of significant plays and forms, since 1900. 11:10 A.M.

## GEOGRAPHY

## FIRST SESSION

- 51 *Introduction to Geography* (3) Campbell  
A study of the attributes of place; patterns and associations of physical and cultural earth-features; the systematic appraisal of earth-man relationships. 9:10 A.M.
- 72x *Political Geography of the United States* (3) Koenig  
A consideration of the interplay between geographic and political factors and the extent to which they determine the administrative policies of governments. 10:10 A.M.
- 127 *Industrial Geography* (3) Withington  
Location and distribution of significant industries, and analysis of the geographic factors determining both; internal structure and external relationships of specific industries. 6:10 P.M.
- 232x *Seminar: Economic Geography of the Soviet Realm* (3) Withington  
Tues. and Thurs., 7:10 to 9:00 P.M.
- 251 *Seminar: Problems of World Food Supply* (3) Campbell  
Areas of deficit and surplus food supply; world trends in food production; food in world trade. Mon. and Wed., 7:10 to 9:00 P.M.

\* English 51-52, 71-72, or 91-92 is prerequisite to all second-group courses.



## SECOND SESSION

- 52 *World Regions* (3) Bailey  
A study of the character of regions; description and interpretation of physical-cultural complexes; evaluation of regional differences as they affect the distribution and activities of man. 9:10 A.M.
- 252 *Seminar: Settlement Problems in Underdeveloped Areas* (3) Bailey  
Settlement problems in underdeveloped areas of surplus and deficit populations; analysis of problems through study of interrelated factors of technology, resource availability, production, trade, population growth, customs, and levels of living. Mon. and Wed., 6:10 to 8:00 P.M.

## GERMANIC LANGUAGES AND LITERATURES

## FIRST SESSION

- †1 *First-year German* (3) Rogers, Sehrt  
The essentials of German grammar, translation of easy prose. Section A: 9:10 A.M.; section B: 6:10 P.M.
- †3 *Second-year German* (3) Rogers, Sehrt  
Selections from modern German prose, review of grammar. Prerequisite: German 1-2 or two years of high school German. Section A: 10:10 A.M.; section B: 7:10 P.M.

## SECOND SESSION

- 2 *First-year German* (3) Legner, King  
The essentials of German grammar, translation of easy prose. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 4 *Second-year German* (3) Legner  
Continuation of German 3. Section A: 10:10 A.M.; section B: 7:10 P.M.

## HISTORY \*

## FIRST SESSION

- 39 *The Development of European Civilization to 1648* (3) Kayser  
Primarily for freshmen. The political, social, economic, and cultural history of the Old World from ancient times through the Reformation period. 7:00 A.M.
- 71 *The Development of the Civilization of the United States to 1865* (3) Koenig  
Primarily for sophomores. The political, social, economic, and cultural forces of the United States from the period of discovery through the Civil War. 8:00 A.M.

\* History 39-40 is prerequisite to courses 109 through 152; History 71-72 to courses 161 through 184. History 39 and History 71 will be offered in the fall term.

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

- 72x *The Development of the Civilization of the United States since 1865* (3) Haskett  
Primarily for sophomores. The political, social, economic, and cultural forces of the United States from the end of the Civil War to the present. 6:10 P.M.
- 130x *Nationalism* (3) Kayser  
The historical evolution of modern nationalism. 8:00 A.M.
- 152x *English History since 1689* (3) Haskett  
A general survey of the development of political, social, and economic institutions of lasting significance in the English speaking world since the "Glorious Revolution." 7:10 P.M.
- 181 *Diplomatic History of the United States to 1871* (3) Merriman  
Tendencies toward isolation, expansion, and collectivism; disputes with foreign nations and their settlement; and the activities of the American secretaries of state and diplomatic agents from the beginnings of the nation through the aftermath of the Civil War. 6:10 P.M.
- 182x *Diplomatic History of the United States since 1871* (3) Merriman  
Tendencies toward isolation, expansion, and collectivism; disputes with foreign nations and their settlement; and the activities of the American secretaries of state and diplomatic agents from the aftermath of the Civil War to the present. 9:10 A.M.
- 183 *Oversea Expansion of the United States* (3) Merriman  
The political, economic, social, and cultural life of our outlying possessions. 10:10 A.M.
- 199 *Proseminar: the Literature and Method of History* (3) The Staff  
Limited to majors in History. Hours to be arranged.
- 291 *Seminar* (3) The Staff  
Hours to be arranged.
- 299 *Thesis* (3) The Staff  
For candidates for the Master's degree in History. Hours to be arranged.

## SECOND SESSION

- 40 *The Development of European Civilization since 1648* (3) Davison  
Primarily for freshmen. The political, social, economic, and cultural history of the Old World from the Reformation period to the present. 7:00 A.M.
- 149x *European Diplomatic History, 1815-1871* (3) Davison  
Background of the European state system and of diplomatic practices and relations, with emphasis on the great powers and their statesmen.

from the Congress of Vienna through the Franco-Prussian War.  
8:00 A.M.

- 150 *European Diplomatic History since 1871* (3) Davison  
The European state system and diplomatic practices and relations,  
with emphasis on the great powers and their statesmen, since the  
Franco-Prussian War. 7:10 P.M.
- 172 *Social History of the United States since 1861* (3) Gray  
Daily life, institutions, intellectual and artistic achievements of the  
Urban-Industrial Era. 9:10 A.M.
- 173x *Representative Americans* (3) Gray  
A biographical approach to national history. Some fifty significant  
and pivotal personalities in the development of the United States in  
government, business, education, science, religion, journalism, the arts,  
and social reform. 10:10 A.M.
- 174 *Economic History of the United States* (3) Gray  
Main trends in the development of American agriculture, industry, and  
trade since 1607, with emphasis on tendencies and problems since the  
Civil War. 6:10 P.M.
- 200 *Proseminar: the Literature and Method of History* (3) The Staff  
Limited to majors in History. Hours to be arranged.
- 292 *Seminar* (3) The Staff  
Hours to be arranged.
- 300 *Thesis* (3) The Staff  
For candidates for the Master's degree in History. Hours to be ar-  
ranged.

## LAW

### FIRST SESSION

- 101 *Legal Method and Legal System* (4) Fryer, Orentlicher  
Introduction to study of substantive and procedural law dealing with  
basic concepts. Training in method and technique of case law, based  
upon modern records in state and federal cases, followed by practice  
in the use of law books and legal writing. Importance of language in  
law, legal reasoning, statutory interpretation, and use of precedents,  
under the doctrines of stare decisis, law of the case, and res judicata.  
Background development of Anglo-American legal system; organization  
of the judiciary and the bar, stressing enforcement of ethical stand-  
ards. Section A: Mon., Tues., and Wed., 9:10 to 11:00 A.M.; and  
Thurs. and Fri., 9:10 A.M.; section B: Mon. through Thurs., 5:50 to  
7:40 P.M.
- 111 *Contracts* (4) Mayo  
Scope of protection accorded contracts; specific performance of con-  
tracts; damages, restitution. Mutual assent: offer and acceptance,



misunderstanding, mistake, reformation, parol evidence rule. Consideration, third party beneficiaries, assignments, conditions, Statute of Frauds. Mon. and Tues., 12:10 P.M.; and Wed., Thurs., and Fri., 11:10 A.M. to 1:00 P.M.

- 137 *Real Property* (4) Cunningham  
Historical background of estates and conveyances; possessory estates; concurrent estates; natural rights; easements, profits, and licenses; adverse possession and adverse user. Mon. through Thurs., 5:50 to 7:40 P.M.

- 205 *Civil Procedure* (4) Burke  
Function and composition of pleadings, including their relation to proof. Emphasis is upon reforms, as exemplified by modern code provisions and the Federal Rules of Civil Procedure. Mon., Tues., and Wed., 9:10 to 11:00 A.M.; and Thurs. and Fri., 9:10 A.M.

- 246x *Commercial Paper* (4)  
Bills of exchange, promissory notes and checks, especially under the Negotiable Instruments Law. Mon. through Thurs., 5:50 to 7:40 P.M.

- 261 *Agency-Partnership* (4) Cooper  
Master and servant (status of agent), respondeat superior, nature of agency relation; actual authority, parties (disclosed and undisclosed principal), unauthorized transactions, notice, notification. Formation of partnerships, partnership property, rights and duties of partners inter se, nature and enforcement of the partnership obligation, dissolution of the partnership, actions by and against partners. Mon. and Tues., 12:10 P.M.; and Wed., Thurs., and Fri., 11:10 A.M. to 1:00 P.M.

- 315 *Conflict of Laws* (4) Stengel  
Study of cases involving foreign elements; principles of jurisdiction and limitations upon its exercise; procedure, torts, workmen's compensation, contracts, property, family law, administration of estates, business associations. Mon., Tues., and Wed., 9:10 to 11:00 A.M.; Thurs. and Fri., 9:10 A.M.

- 331 *Legal Accounting* (2) Fey  
A study of elementary accounting principles and techniques, and application of accounting principles to legal problems. Section A: Mon. and Tues., 11:10 A.M.; and Thurs. and Fri., 10:10 A.M.; section B: Tues. and Thurs., 5:50 to 7:40 P.M.

- 362x *Security Transactions* (4) Jones  
Security interests in real and personal property, their creation, transfer, enforcement, and extinguishment, together with security problems in the fields of suretyship and bankruptcy. Mon. through Thurs., 5:50 to 7:40 P.M.

- 410x *Legal Operation of Modern Social Legislation* (2)  
Philosophy, constitutional theory, and legal principles in the operation of the developing socio-economic programs for security of the individual, including Workmen's and Unemployment Compensation, Public Assistance, and related programs. Mon. and Wed., 5:50 to 7:40 P.M.

## SECOND SESSION

- 112 *Contracts* (2) Merrifield  
Continuation of Law 111. Mon. and Tues., 12:10 to 1:00 P.M.; Thurs. and Fri., 11:10 to 12:00 A.M.
- 123x *Criminal Law and Procedure* (4) \_\_\_\_\_  
Origin and purposes of criminal law; elements of criminal liability; mental disorders; solicitation, attempt, and conspiracy; crimes against the person, against property, and against both; statutory offenses; criminal procedure, with consideration of Federal Rules of Criminal Procedure. Mon. through Thurs., 5:50 to 7:40 P.M.
- 137x *Real Property* (4) Benson  
Same as Law 137. Mon., Tues., and Wed., 9:10 to 11:00 A.M.; and Thurs. and Fri., 9:10 A.M.
- 214 *Constitutional Law* (4) Collier  
Historical introduction, judicial approach and methods, doctrine of the separation of powers, powers of the National Government; the federal system and relation of federal and state courts. Mon. through Thurs., 5:50 to 7:40 P.M.
- 223x *Evidence* (4) Weston  
Functions of court and jury; witnesses; hearsay, opinion, and circumstantial evidence; proof of authenticity and contents of writings. Mon., Tues., and Wed., 9:10 to 11:00 A.M.; Thurs. and Fri., 9:10 to 10:00 A.M.
- 303x *Administrative Law* (4) Davison  
Legislative setting for administrative bodies; judicial control of administrative action, public utilities, taxation, alien laws. Federal Trade Commission, workmen's compensation, etc. Mon. through Thurs., 5:50 to 7:40 P.M.
- 305x *Municipal Corporations* (2) \_\_\_\_\_  
Organization, powers, functions, and legal relations of local governmental units. Thurs. and Fri., 9:10 to 11:00 A.M.
- 311x *Corporations* (4) Weaver  
Legal requirements as to contributions of capital; powers and rights of corporations, corporate officials, and shareholders. Mon. and Tues., 12:10 to 1:00 P.M.; Wed., Thurs., and Fri., 11:10 A.M. to 1:00 P.M.
- 317x *Creditors' Rights* (4) Whiteside  
Remedies of unsecured creditors: judgments, fraudulent conveyances, creditors' agreements, equity and statutory receiverships, and bankruptcy. The general approach is that of law administration. Mon. through Thurs., 5:50 to 7:40 P.M.
- 333x *Legislation* (4) Mallison  
Justiciable aspects of the legislative process; forms and types of statutes; principles of statutory interpretation, structure and drafting. Mon. and Tues., 12:10 to 1:00 P.M.; and Wed., Thurs., and Fri., 11:10 A.M. to 1:00 P.M.

- 413x *Labor Law Practice* (2) Merrifield  
Practices and procedures in voluntary arbitration cases and before federal agencies, such as National Labor Relations Board, Wage and Hour Division, Federal Mediation and Conciliation Service, and Wage Stabilization Board. Tues. and Thurs., 5:50 to 7:40 P.M.
- 427x *World Law* (2) \_\_\_\_\_  
The United Nations as a basis of reference for a study of international law. Mon. and Wed., 5:50 to 7:40 P.M.

## SIXTEEN-WEEK TERM

June 3 to September 23

- 133S *Personal Property* (2) \_\_\_\_\_  
Concepts of property and ownership; possession; finding; bailment; acquisition of title by bona fide purchase, adverse possession, accession, confusion, judgment, satisfaction of a judgment, and gift. Fri., 5:50 to 7:40 P.M.
- 233S *Domestic Relations* (2) \_\_\_\_\_  
Marriage, annulment, and divorce; rights of husband and wife, parent and child. Fri., 5:50 to 7:40 P.M.
- 337S *Future Interests* (2) \_\_\_\_\_  
Future interests at common law and under modern statutes, construction of limitations, powers of appointment, rule against perpetuities. Fri., 5:50 to 7:40 P.M.

## MATHEMATICS

## FIRST SESSION

- 3 *College Algebra* (3) Johnston, \_\_\_\_\_  
Prerequisite: one year each of high school algebra and high school geometry. Section A: 10:10 A.M.; section B: 7:10 P.M.
- 6x *Plane Trigonometry* (3) Johnston, \_\_\_\_\_  
Prerequisite: two years of high school algebra and one year of high school geometry, or Mathematics 3 (or concurrent registration therefor). Section A: 9:10 A.M.; section B: 6:10 P.M.
- 12x *Analytic Geometry* (3) Mears, \_\_\_\_\_  
Prerequisite: Mathematics 6, or two years of high school algebra, one year of high school geometry, and one-half year of high school trigonometry. Section A: 11:10 A.M.; section B: 7:10 P.M.
- 19 *Differential Calculus* (3) Mears, \_\_\_\_\_  
Prerequisite: Mathematics 12. Section A: 10:10 A.M.; section B: 7:10 P.M.
- 20x *Integral Calculus* (3) \_\_\_\_\_  
Prerequisite: Mathematics 19. 6:10 P.M.



123 *Theory of Equations* (3) Johnston  
Prerequisite: Mathematics 20. 11:10 A.M.

132x *Differential Equations* (3) Mears  
Prerequisite: Mathematics 20. 6:10 P.M.

#### SECOND SESSION

3x *College Algebra* (3) Williams  
Prerequisite: one year each of high school algebra and high school geometry. 6:10 P.M.

6 *Plane Trigonometry* (3)  
Prerequisite: two years of high school algebra and one year of high school geometry, or Mathematics 3 (or concurrent registration therefor). 7:10 P.M.

12 *Analytic Geometry* (3) Nelson, \_\_\_\_\_  
Prerequisite: Mathematics 6, or two years of high school algebra, one year of high school geometry, and one-half year of high school trigonometry. Section A: 9:10 A.M.; section B: 6:10 P.M.

19x *Differential Calculus* (3) \_\_\_\_\_  
Prerequisite: Mathematics 12. 7:10 P.M.

20 *Integral Calculus* (3) Nelson, Taylor  
Prerequisite: Mathematics 19. Section A: 10:10 A.M.; section B: 7:10 P.M.

134 *Introduction to Boundary Value Problems* (3) Taylor  
Prerequisite: Mathematics 132. 6:10 P.M.

### PHARMACY

#### FIRST SESSION

192x *Hospital Pharmacy* (1) Rice  
Prescription practice in the University Hospital Pharmacy. Prerequisite: Pharmacy 102. Laboratory (6 hours)—hours to be arranged.

#### SECOND SESSION

192 *Hospital Pharmacy* (1) Rice  
Prescription practice in the University Hospital Pharmacy. Prerequisite: Pharmacy 102. Laboratory (6 hours)—hours to be arranged.

#### FIFTEEN-WEEK SESSION

192S *Hospital Pharmacy* (1) Rice  
Prescription practice in the University Hospital Pharmacy. Prerequisite: Pharmacy 102. Laboratory (3 hours)—hours to be arranged.

## PHILOSOPHY

## SECOND SESSION

- 51x Introduction to Philosophy (3)** Rose  
An introduction to the problems of modern philosophy in relation to scientific and social developments since the Renaissance. May be taken concurrently with Philosophy 52. Tues., Wed., and Thurs., 5:35 to 7:00 P.M.
- 52 Introduction to Philosophy (3)** Rose  
A continuation of Philosophy 51. An examination of problems relating to science, ethics, social questions, and aesthetics. May be taken concurrently with Philosophy 51. Tues., Wed., and Thurs., 7:10 to 8:35 P.M.
- 172 American Philosophy (3)** Rose  
A study of Philosophy in America since 1870. Tues., Wed., and Thurs., 11:10 A.M. to 12:35 P.M.

## PHYSICS

## FIRST SESSION

- 7 General Physics (3)** Cheney and Staff  
Elementary electricity and magnetism. Prerequisite: Physics 5\*; high school algebra and plane geometry. Material fee, \$9.

Section	Lecture	Recitation	Laboratory
A	.....TTh 1:10 pm.....	MW 1:10 pm.....	MW 2:10- 4:30 pm
B	.....TTh 6:10 pm.....	MW 6:10 pm.....	MW 8:10-10:30 pm
C	.....TTh 6:10 pm.....	MW 7:10 pm.....	TTh 7:10- 9:30 pm

- 106x Light (3)** Cheney  
Geometrical optics; elementary theory of wave motions; interference, diffraction, polarization, and dispersion of light; laws of black-body radiation. Prerequisite: Physics 8; Mathematics 20. 7:10 P.M.

## SECOND SESSION

- 6 General Physics (3)** Koehl and Staff  
Mechanics, wave-motion, sound, and optical instruments. Prerequisite: Physics 5\*; high school algebra and plane geometry. Material fee, \$9.

Section	Lecture	Recitation	Laboratory
A	.....TTh 1:10 pm.....	MW 1:10 pm.....	MW 2:10- 4:30 pm
B	.....TTh 6:10 pm.....	MW 6:10 pm.....	MW 7:10- 9:30 pm

- 8 General Physics (3)** Meijer  
Foundations of modern physics—the experimental evidence concerning light waves and quanta, X-rays, and radiowaves; electrons, protons, and other elementary particles; atomic and molecular structure;

\* This prerequisite may be waived for students who have credit for a high school physics course which included individual laboratory work, providing they pass the qualifying examination given at the dates specified in the University calendar.

and nuclear physics. Prerequisite: Physics 6 and 7. Lecture—Mon., Wed., and Fri., 6:10 P.M.; recitation—Tues. and Thurs., 6:10 P.M.

113x *Atomic Physics* (3)

Meijer

Properties of the electron and the other fundamental particles of physics; the photoelectric effect; X-rays and crystal structure; wave aspects of particles; elements of the quantum theory; atomic spectra and atomic structure. Prerequisite: Physics 8; Mathematics 20. 7:10 P.M.

191x *Nuclear Reactors* (3)

Beckerley

Neutron physics: sources of neutrons, neutron reactions, slowing down and diffusion; introduction to transport theory; fission process; reactor types; basic theory of homogeneous and heterogeneous reactors, including specific numerical studies from recent publications. Prerequisite: Physics 8; Mathematics 20. Evening, hours to be arranged.

## POLITICAL SCIENCE \*

### FIRST SESSION

9 *Government of the United States* \* (3) West, Tillema  
Section A: 10:10 A.M.; section B: 7:10 P.M.

121 *The Constitution of the United States* (3) West  
Mon., Wed., and Thurs., 7:10 to 8:35 P.M.

127 *Commercial Law: Contracts, Agency, and Bailments* (3) Tillema  
6:10 P.M.

128x *Commercial Law: Negotiable Instruments, Property, Sales, Mortgages* (3) Tillema  
11:10 A.M.

171 *International Politics* (3) Brewer  
9:10 A.M.

181 *International Law* (3) Brewer  
10:10 A.M.

‡226x *Problems of Governmental Reorganization* (3) Torpey  
Tues. and Thurs., 8:10 to 10:00 P.M.

281 *Seminar: International Law and Relations* (3) Brewer  
Mon. and Wed., 8:10 to 10:00 P.M.

### SECOND SESSION

10 *Government of the United States* \* (3) Ludden, Esman  
Section A: 10:10 A.M.; section B: 7:10 P.M.

\* Political Science 9-10 is prerequisite to all other courses in Political Science.  
‡ Primarily for Master of Arts candidates in the School of Government.



- 112 *The Governments of Europe: Soviet Union, Germany, Italy* (3) Kraus  
11:10 A.M.
- 116 *Political Parties* (3) Ludden  
9:10 A.M.
- 118 *Political Theory* (3) Kraus  
10:10 A.M.
- 172 *International Organization: the United Nations* (3) Ludden  
Mon., Wed., and Thurs., 7:10 to 8:35 P.M.
- 213x *Reading Course in Comparative Government* (3) Kraus  
Tues. and Thurs., 8:10 to 10:00 P.M.
- \*272 *Problems in International Politics and Organization* (3) Hadsel  
Mon. and Wed., 8:10 to 10:00 P.M.
- \*291x *Workshop in Public Administration* (3) Johnson  
Tues. and Thurs., 8:10 to 10:00 P.M.

## PSYCHOLOGY ‡

## FIRST SESSION

- 1 *General Psychology* ‡ (3) Fox  
The fundamental principles underlying human behavior. Section A: Mon., Wed., and Fri., 11:10 A.M. to 12:35 P.M.; section B: Mon., Wed., and Fri., 5:35 to 7:00 P.M.
- 2x *Applied Psychology* (3) Caldwell  
The applications of psychology in business, industry, medicine, law, guidance, education, and social problems. Mon., Wed., and Fri., 7:10 to 8:35 P.M.
- 22x *Introduction to Educational Psychology* (3) Faith  
Consideration of individual and group differences, adjustments, and the psychology of learning in relation to education and training. 8:10 A.M.
- 29 *Child Psychology* (3) Phillips  
A genetic approach to the study of the child. 10:10 A.M.
- 98x *Abnormal Psychology* (3) Phillips  
The causes, diagnosis, treatment, and prevention of the various types of maladjustments and mental disorders. 9:10 A.M.

\* Primarily for Master of Arts candidates in the School of Government.

‡ Psychology 1 is prerequisite to all other courses in psychology.

- 121 *Educational Psychology* (3) Faith  
Advanced course in educational psychology. Hours to be arranged.
- 144x *Personnel Psychology* (3) Mosél  
The applications of psychology to personnel work in education, business, industry, and government. Mon. and Wed., 7:10 to 9:15 P.M.
- 171 *Psychology of Personality* (3) Caldwell  
Contemporary approaches to the study of personality. Mon., Wed., and Fri., 5:35 to 7:00 P.M.
- 193 *Readings in Psychology* (3) The Staff  
Supervised readings on specific topics in psychology; with conferences; for undergraduate majors. Open only to seniors with 18 or more credits in psychology with a quality point index of 3.00 or higher. Special permission of staff member under whom course is to be taken is necessary. Hours to be arranged.
- 204x *Contemporary Developments in Psychology* (3) Fox  
Certain modern developments are treated, e.g., action research; Eysenck's personality investigations, various new theories, P and Q techniques, etc. Mon. and Wed., 7:10 to 9:00 P.M.
- 205 *Field Work in Psychology* (3) The Staff  
Supervised field work in agencies providing psychological service. Admission by permission of the Executive Officer of the Department. Hours to be arranged.
- 207 *Readings in Psychology for Graduate Students* (3) The Staff  
Supervised readings with conferences on specified topics in psychology. Hours to be arranged.
- 225 *Seminar: Mental Hygiene* (3) Phillips  
A survey of the recent literature in social psychology and anthropology as they relate to the impact of society on the mental hygiene of the individual. Individual mental health problems are viewed in terms of the social context in which they occur and are treated. Tues. and Thurs., 8:10 to 10:00 P.M.
- 272x *Seminar: Theories of Personality* (3) Caldwell  
A survey of the various theories of personality, with emphasis upon theoretical problems and methodology in the field of personality study. Tues. and Thurs., 6:10 to 8:00 P.M.
- 295 *Research in Psychology* The Staff  
Hours and credits to be arranged.
- 299 *Thesis* (3) The Staff

## SPECIAL SIX-WEEK SESSION

- 228 *Seminar: Techniques of Counseling* (3) Dreese  
Specific types of vocational, educational, and personal counseling problems approached through the case method. Prerequisite: recent previous course in counseling and guidance and familiarity with individual analysis methods. 10:20 to 11:20 A.M.

## SECOND SESSION

- 1K *General Psychology* \* (3) Hunt, Tuthill  
The fundamental principles underlying human behavior. Section A: 9:10 A.M.; section B: Mon., Wed., and Fri., 5:35 to 7:00 P.M.
- 2 *Applied Psychology* (3) Hunt  
The applications of psychology in business, industry, medicine, law, guidance, education, and social problems. 10:10 A.M.
- 13IX *Psychological Tests* (3) Hunt  
A survey of psychological tests and their most common uses in business, industry, government, law, medicine, and education. Material fee, \$5. Tues. and Thurs., 7:10 to 9:15 P.M.
- 15IX *Social Psychology* (3) Tuthill  
The social foundations of attitudes and behavior. Individual adjustment to group situations, such as the family, school, and occupation. The psychological basis of race prejudice, nationalism and war. Mon., Wed., and Fri., 11:10 A.M. to 12:35 P.M.
- 194 *Readings in Psychology* (3) The Staff  
Supervised readings on specific topics in psychology; with conferences; for undergraduate majors. Open only to seniors with 18 or more credits in psychology with a quality-point index of 3.00 or higher. Special permission of staff member under whom course is to be taken is necessary. Hours to be arranged.
- 206 *Field Work in Psychology* (3) The Staff  
Supervised field work in agencies providing psychological service. Admission by permission of the Executive Officer of the Department. Hours to be arranged.
- 208 *Readings in Psychology for Graduate Students* (3) The Staff  
Supervised readings with conferences on specific topics in psychology. Hours to be arranged.
- 254 *Seminar: Group Dynamics* (3) Tuthill  
The experimental study of small groups; autocratic and democratic group climates; interaction process analysis; Lewin's field-theoretical approach to individual and group processes. Mon. and Wed., 7:10 to 9:00 P.M.

\* Psychology 1 is prerequisite to all other courses in psychology.



- 296 *Research in Psychology* (arr.) The Staff  
Hours and credits to be arranged.
- 300 *Thesis* (3) The Staff

## RELIGION

## FIRST SESSION

- 59 *History of Religions* (3) Folkemer  
Primitive and eastern religions—Egyptian religion, Confucianism, Taoism, Buddhism and sects, Hinduism, and Shintoism—considering environment, personalities, religious thought, cultus, ethics, and modern trends. 11:10 A.M.
- 103 *The Life and Significance of Jesus* (3) Folkemer  
A detailed study of the life and teachings of Jesus on the basis of a comparative analysis of the Gospel records; the significance of the message of Jesus for our own times. 6:10 P.M.

## ROMANCE LANGUAGES AND LITERATURES \*

## FRENCH \*

## FIRST SESSION

- †1 *First-year French* (3) The Staff  
Grammar, composition, translation, pronunciation. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 2x *First-year French* (3) The Staff  
Continuation of French 1. 7:10 P.M.
- †3 *Second-year French* (3) The Staff  
Reading of modern French, grammar review, oral practice. Prerequisite: French 1-2 or two years of high school French. Section A: 8:10 A.M.; section B: 7:10 P.M.
- 4x *Second-year French* (3) The Staff  
Continuation of French 3. 7:10 P.M.
- 109 *French Conversation and Composition* (3) The Staff  
6:10 P.M.

## SECOND SESSION

- 2 *First-year French* (3) The Staff  
Continuation of French 1. Section A: 9:10 A.M.; section B: 6:10 P.M.

\* A standardized placement examination is required of all entering students who wish to continue in college the language begun in high school. Upon completion of the examination assignment is made to the appropriate course, with credit to be assigned on the usual basis.

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

- †3x *Second-year French* (3) The Staff  
Reading of modern French, grammar review, oral practice. Pre-requisite: French 1-2 or two years of high school French. 7:10 P.M.
- 4 *Second-year French* (3) The Staff  
Continuation of French 3. Section A: 8:10 A.M.; section B: 7:10 P.M.
- 110 *French Conversation and Composition* (3) The Staff  
6:10 P.M.

## SPANISH\*

## FIRST SESSION

- †1 *First-year Spanish* (3) The Staff  
Grammar, composition, translation, pronunciation. Section A: 9:10 A.M.; section B: 7:10 P.M.
- 2x *First-year Spanish* (3) The Staff  
Continuation of Spanish 1. 7:10 P.M.
- †3 *Second-year Spanish* (3) The Staff  
Reading of modern Spanish, grammar review, oral practice. Pre-requisite: Spanish 1-2 or two years of high school Spanish. Section A: 10:10 A.M.; section B: 6:10 P.M.
- 4x *Second-year Spanish* (3) The Staff  
Continuation of Spanish 3. 6:10 P.M.
- 109 *Spanish Conversation and Composition* (3) The Staff  
6:10 P.M.

## SECOND SESSION

- 2 *First-year Spanish* (3) The Staff  
Continuation of Spanish 1. Section A: 9:10 A.M.; section B: 7:10 P.M.
- †3x *Second-year Spanish* (3) The Staff  
Reading of modern Spanish, grammar review, oral practice. Pre-requisite: Spanish 1-2 or two years of high school Spanish. 7:10 P.M.
- 4 *Second-year Spanish* (3) The Staff  
Continuation of Spanish 3. Section A: 10:10 A.M.; section B: 6:10 P.M.
- 110 *Spanish Conversation and Composition* (3) The Staff  
6:10 P.M.

\* A standardized placement examination is required of all entering students who wish to continue in college the language begun in high school. Upon completion of the examination assignment is made to the appropriate course, with credit to be assigned on the usual basis.

† A dagger preceding an old-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

## SOCIOLOGY \*

## FIRST SESSION

- 1** *Introductory Sociology* (3) Geisert, Lavell  
The origin and development of culture, man's social nature, types of groups and social institutions, social processes, social change, and social control. Section A: 9:10 A.M.; section B: Mon., Wed., and Fri., 5:35 to 7:00 P.M.
- 127** *Community Organization* (3) Geisert  
The study of social interaction in American communities, factors making for disorganization, community leadership, methods of organizing social forces to meet community needs. Mon., Wed., and Fri., 7:10 to 8:35 P.M.
- 162X** *Social Movements* (3) Lavell  
Major contemporary social movements are examined as aspects of social change and collective behavior; designed to disclose competing ideologies and show the way in which social movements develop. 10:10 A.M.
- 295** *Research* (arr.) The Staff  
Hours and credits to be arranged.
- 299** *Thesis* (3) The Staff

## SECOND SESSION

- 2** *Introductory Sociology* (3) Ebersole  
The factors producing social change and social disorganization, an analysis of the problems arising from the disorganization of the individual and family. Section A: 9:10 A.M.; section B: Mon., Wed., and Fri., 5:35 to 7:00 P.M.
- 132** *Marriage* (3) Ebersole  
The reasons for marriage, marriage laws, mate selection, courtship, husband-wife relations, factors in marital adjustment, marriage prediction and counseling. Mon., Wed., and Fri., 7:10 to 8:35 P.M.
- 296** *Research* (arr.) The Staff  
Hours and credit to be arranged.
- 300** *Thesis* (3) The Staff

## SPEECH

## FIRST SESSION

- A** *Speech Clinic* Surrey  
Individual or group lessons, without academic credit, for such speech difficulties as lisping, cleft palate, articulatory problems, and stuttering. Fee: for individual lesson, \$5; for group lesson, \$3. Hours to be arranged.

\* Sociology 1 is prerequisite to all other courses in Sociology.



**B American Speech for Foreign Students** **Surrey**

Individual or group instruction, without academic credit, in the formation of the sounds of spoken English, with emphasis on rhythm and inflexion. The International Phonetic Alphabet is used. Fee: for individual lesson, \$5; for group lesson, \$3. Hours to be arranged.

**1 Effective Speaking (3)** **Stevens and Staff**

Preparation and delivery of extempore speeches; developing confidence and poise, body and voice control; selecting and organizing material. Recording fee, \$3. Section A: 8:10 A.M.; section B: 11:10 A.M.; section C: Mon. through Thurs., 5:55 to 7:00 P.M.

**11 Training the Speaking Voice (3)** **Stevens and Staff**

Developing ease, naturalness, and clarity in the speaking voice. Analysis of individual voices through recordings. Phonetic approach to the study of the sounds of English and the standards of speech. Recording fee, \$3. Section A: 10:10 A.M.; section B: Mon. through Thurs., 7:10 to 8:15 P.M.

**178x Clinical Practice in Speech Therapy (1)** **Surrey**

Case work in remedial speech. This course may be repeated for a total of three credit hours. Prerequisite: Speech 175. Hours to be arranged.

**179 Clinical Practice in Hearing Therapy (1)** **Surrey**

Case work with persons handicapped with hearing losses. This course may be repeated for a total of three credit hours. Prerequisite: Speech 177. Hours to be arranged.

**SECOND SESSION****A Speech Clinic** **Bielski**

Individual or group lessons, without academic credit, for such speech difficulties as lispings, cleft palate, articulatory problems, and stuttering. Fee: for individual lesson, \$5; for group lesson, \$3. Hours to be arranged.

**B American Speech for Foreign Students** **Bielski**

Individual or group instruction without academic credit in the formation of the sounds of spoken English, with emphasis on rhythm and inflexion. The International Phonetic Alphabet is used. Fee: for individual lesson, \$5; for group lesson, \$3. Hours to be arranged.

**1x Effective Speaking (3)** **Henigan and Staff**

Preparation and delivery of extempore speeches; developing confidence and poise; body and voice control; selecting and organizing material. Recording fee, \$3. Section A: 11:10 A.M.; section B: Mon. through Thurs., 7:10 to 8:15 P.M.

**2 Speech Making (3)** **Henigan**

Special emphasis on organization of material and elementary principles of persuasion. This course is a continuation of Speech 1, which is prerequisite. Recording fee, \$3. 8:10 A.M.

- 11x Training the Speaking Voice (3)** Bielski  
Developing ease, naturalness, and clarity in the speaking voice. Analysis of individual voices through recordings. Phonetic approach to the study of the sounds of English and the standards of speech. Recording fee, \$3. Mon. through Thurs., 5:55 to 7:00 P.M.
- 3x Oral Reading (3)** Henigan  
Reading to others: theory and practice of interpreting the printed page. Prerequisite: Speech 11. Recording fee: \$3. 10:10 A.M.
- 178 Clinical Practice in Speech Therapy (1)** The Staff  
Case work in remedial speech. This course may be repeated for a total of three credit hours. Prerequisite: Speech 175. Hours to be arranged.
- 179x Clinical Practice in Hearing Therapy (1)** The Staff  
Case work with persons handicapped with hearing losses. This course may be repeated for a total of three credit hours. Prerequisite: Speech 177. Hours to be arranged.

## STATISTICS

## FIRST SESSION

- 52x Mathematics of Finance (3)** Weida  
Interest and discount, annuities, valuation of stocks and bonds, sinking funds, amortization, valuation of depletable assets, depreciation, building and loan associations. Prerequisite: one entrance unit in Algebra. Mon. through Thurs., 11:10 A.M. to 12:15 P.M.
- 53 Introduction to Statistics in Psychology and Education (3)** McCall  
Sources of data, tabulation, charts and graphs, averages, dispersion, quartiles and percentiles, raw scores and derived scores, profiles, norms and their use, frequency distributions, intelligence and other quotients, reliability and validity of tests, normal curve, correlation, elementary sampling, statistical error, limitations of statistics. Prerequisite: one entrance unit in Algebra. Laboratory fee, \$6. Lecture—Mon. through Thurs., 11:10 A.M.; laboratory—Mon. and Wed., 1:10 to 2:50 P.M.
- †115 Principles of Statistical Method (3)** Weida  
This course emphasizes the meaning, uses, and application of variates and attributes, measurement and enumeration, averages and dispersion, frequency distributions and their characteristics, errors of measurement and their control, index numbers, trends, cyclical relatives, purposive and random sampling in theory and practice with applications. Prerequisite: one entrance unit in Algebra. Laboratory fee, \$6. This is the first half of a 6 credit course. Except by special arrangement with the instructor, the second half, Statistics 116, must be completed before credit is allowed. Lecture—Mon. through Thurs., 7:10 P.M.; laboratory—Mon. and Wed., 8:10 to 9:50 P.M.

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

117 *Analysis of Variance* (3)

Weida

The analysis of variance and covariance to segregate factors producing significant variation, a method to estimate experimental error, multiple classification with unequal class frequencies. Prerequisite: Statistics 115-16. 6:10 P.M.

## SECOND SESSION

51x *Introduction to Business and Economic Statistics* (3)

Johnson

Survey of elementary principles and procedures for presenting, analyzing, and interpreting statistical data; consideration of characteristic values, measures of variability, sampling processes, index numbers, time series analysis, and simple correlation. Prerequisite: one entrance unit in Algebra. Laboratory fee, \$6. Lecture—Mon. through Thurs., 11:10 A.M.; laboratory—Mon. and Wed., 1:10 to 2:50 P.M.

53x *Introduction to Statistics in Psychology and Education* (3)

Johnson

Sources of data, tabulation, charts and graphs, averages, dispersion, quartiles and percentiles, raw scores and derived scores, profiles, norms and their use, frequency distributions, intelligence and other quotients, reliability and validity of tests, normal curve, correlation, elementary sampling, statistical error, limitations of statistics. Prerequisite: one entrance unit in Algebra. Laboratory fee, \$6. Lecture—Mon. through Thurs., 6:10 P.M.; laboratory—Tues. and Thurs., 8:10 to 9:50 P.M.

116 *Principles of Statistical Method* (3)

Johnson

Continuation of Statistics 115. Prerequisite: Statistics 115 or the equivalent. Laboratory fee, \$6. Lecture—Mon. through Thurs., 7:10 P.M.; laboratory—Mon. and Wed., 8:10 to 9:50 P.M.

## ZOOLOGY \*

## FIRST SESSION

1 *Introduction to Zoology* (4)

Young, Lambert

An introduction to the study of the structure, functions, and relations of animals, and of the fundamental biological principles involved. Material fee, \$9. Lecture—Mon. through Thurs., 6:10 P.M.; laboratory—Mon. through Thurs., 7:10 to 9:00 P.M.

137 *Histology* (3)

Young

An introduction to the microscopical anatomy of normal tissues and organs. Prerequisite: Zoology 2. Material fee, \$9. Lecture—Mon. and Wed., 7:10 P.M.; laboratory—Mon. and Wed., 8:10 to 10:00 P.M., and Tues. and Thurs., 7:10 to 9:00 P.M.

295 *Research* (3)

The Staff

Investigation of special problems. Hours to be arranged.

299 *Thesis* (3)

The Staff

\* See also the departments of Biology and Botany.



## SECOND SESSION

- 2 *Introduction to Zoology* (4) Mortensen  
Continuation of Zoology 1. Material fee, \$9. Lecture—Mon. through Thurs., 6:10 P.M.; laboratory—Mon. through Thurs., 7:10 to 9:00 P.M.
- 144 *Introduction to Vertebrate Embryology* (3) Hansen  
The origin and early development of the individual and the formation of organ systems. Emphasis is placed on the frog, chick, and pig, with reference to the human embryo. Prerequisite: Zoology 2 or the equivalent. Material fee, \$9. Lecture—Mon. and Wed., 6:10 P.M.; laboratory—Mon. through Thurs., 7:10 to 9:00 P.M.
- 296 *Research* (3) The Staff  
Investigation of special problems. Hours to be arranged.
- 300 *Thesis* (3) The Staff

SCHEDULE OF CLASSES

## HOURLY SCHEDULE OF CLASSES •

FIRST SESSION †—JUNE 3 to JULY 28

## MORNING CLASSES

7:10	8:10	9:10	10:10	11:10
Hist 39 (at 7)	Acct 1A Eng 2xA (comp) Fr 3A Hist 71 (at 8) Hist 130x (at 8) Psych 22x Speech 1A	Acct 137 Art 177A (9-12) Art 178xA (9-12) Econ 1A Econ 102x Eng 1A (comp) Eng 184x (Eng lit) Fr 1A Geog 51 Ger 1A Hist 182x Math 6xA Pol Sc 171 Psych 98x Soc 1A Span 1A	Acct 147 Bus Adm 141 Econ 166x Eng 1B (comp) Eng 71 (Amer lit) Eng 135 (Eng lit) Geog 72x Ger 3A Hist 183 Math 3A Math 10A Pol Sc 9A Pol Sc 181 Psych 29 Soc 162x Span 3A Speech 11A	Bot 1 lect (TWTThF) Bus Adm 131 Eng 1C (comp) Eng 175 (Amer lit) Math 12xA Math 123 Pol Sc 128x Psych 1A (MWF to 12:35) Relig 59 Speech 1B Stat 52x (MTWTh to 12:15) Stat 53 lect (MTWTh)

• Seminars and research courses for which hours are to be arranged, courses in the Law School and in the special sessions of the School of Education will be found under departmental announcements.

† Classes meeting Monday through Friday unless otherwise indicated.



FIRST SESSION—AFTERNOON CLASSES

12:10	1:10	2:10	3:10
Bot 1 lab (TWThF) Eng 51A (Eng lit)	Art 177B (1-4) Art 178xB (1-4) Biol 1 lect (TTh) Biol 1 field (WF to 4) Chem 11 lect (TWThF) Chem 21 lect (TWThF) Chem 151 lect (MWF) Chem 151 lab (TTh to 4) Phys 7A lect (TTh) Phys 7A rec (MW) Stat 53 lab (MW to 2:50)	Biol 1 lab (TTh to 4) Chem 11 lab (WF to 4) Chem 11 rec (TTh) Chem 21 lab (TWThF to 5) Ed 109 (MTWTh) Phys 7A lab (MW to 4:30)	Chem 11 lab (TTh to 5) Chem 151 lect (MWF)

FIRST SESSION—EVENING CLASSES

5:10	6:10	7:10	8:10
Art 71 Art 177C (5:30-8:30) Econ 213 (MW to 7) Ed 121 (MTWTh) Psych 1B (MWF 5:35-7) Psych 171 (MWF 5:35-7) Soc 1B (MWF 5:35-7)	Art 72x Acct 151 Acct 282x (MW to 8:30) Biol 115 lect (MW) Biol 115 lab (TTh to 9) Bus Adm 145 Econ 1B Econ 181 Eng 2xB (comp)	Acct 1B (MWF to 8:35) Acct 153 (TThF to 8:35) Biol 115 rec (MW) Bus Adm 138x Bus Adm 148x Econ 121 Eng B (comp) Eng 1D (comp) Eng 152x (Eng lit)	Bus Adm 231 (MW to 10) Bus Adm 291 (TTh to 10) Bus Adm 296x (MW to 10) Econ 215 (TTh to 10) Econ 216x (MW to 10) Eng A (comp) Eng 222x (Eng lit) (MTh to 10) Phys 7B lab (MW to 10:30)

## EVENING CLASSES (Continued)

5:10	6:10	7:10	8:10
	Eng 51B (Eng lit) Fr 1B Fr 109 Geog 127 Ger 1B Hist 72x Hist 181 Math 6xB Math 20x Math 132x Phys 7B lect (TTh) Phys 7B rec (MW) Phys 7C lect (TTh) Pol Sc 127 Psych 272x (TTh to 8) Relig 103 Span 3B Span 4x Span 109 Speech 1C (MTWTh 5:55-7) Stat 117 Zoo 1 lect (MTWTh)	Fr 2x Fr 3B Fr 4x Geog 232x (TTh to 9) Geog 251 (MW to 9) Ger 3B Hist 152x Math 3B Math 12xB Math 19B Phys 7C rec (MW) Phys 7C lab (TTh to 9:30) Phys 106x Pol Sc 9B Pol Sc 121 (MWTh to 8:35) Psych 2x (MWF to 8:35) Psych 144x (MW to 9:15) Psych 204x (MW to 9) Soc 127 (MWF to 8:35) Span 1B Span 2x Speech 11B (MTWTh to 8:15) Stat 115 lect (MTWTh) Zoo 1 lab (MTWTh to 9) Zoo 137 lect (MW) Zoo 137 lab (TTh to 9)	Pol Sc 226x (TTh to 10) Pol Sc 281 (MW to 10) Psych 225 (TTh to 10) Stat 115 lab (MW to 9:50) Zoo 137 lab (MW to 10)

## SECOND SESSION •—JULY 30 to SEPTEMBER 19

## MORNING CLASSES

7:10	8:10	9:10	10:10	11:10
Acct 102 (MWTh 7:35-9) Hist 40 (at 7)	Acct 2A Fr 4A Hist 149x (at 8) Speech 2	Acct 111x Bus Adm 101x Econ 2A Fr 2A Geog 52 Ger 2A Hist 172 Math 12A Pol Sc 116 Psych 1xA Soc 2A Span 2A	Bus Adm 102 Econ 101x Eng 72 (Amer lit) Eng 166 (Eng lit) Ger 4A Hist 173x Math 20A Pol Sc 10A Pol Sc 118 Psych 2 Span 4A Speech 32	Bot 2 lect (TWThF) Bus Adm 198 Econ 133x Eng 2A (comp) Eng 176 (Amer lit) Phil 172 (TWTh to 12:35) Pol Sc 112 Psych 151x (MWF to 12:35) Speech 1xA Stat 51x lect (MTWTh)

• Classes meet Monday through Friday unless otherwise indicated.



## SECOND SESSION—AFTERNOON CLASSES

12:10	1:10	2:10	3:10
Bot 2 lab (TWThF) Eng 52A (Eng lit)	Biol 2 lect (TTh) Biol 2 field (WF to 4) Chem 12 lect (TWThF) Chem 22 lect (TWThF) Chem 152 lect (TWThF) Phys 6A lect (TTh) Phys 6A rec (MW) Stat 51X lab (MW to 2:50)	Biol 2 lab (TTh to 4) Chem 12 lab (WF to 4) Chem 12 rec (TTh) Chem 22 lab (TWThF to 5) Chem 152 lab (TWThF to 5) Ed 110 (MTWTh) Phys 6A lab (MW to 4:30)	Chem 12 lab (TTh to 5)

## SECOND SESSION—EVENING CLASSES

5:10	6:10	7:10	8:10
Econ 109X Ed 122 (MTWTh) Phil 51X (TWTh 5:35-7) Psych 1XB (MW 5:35-7) Soc 2B (MW 5:35-7)	Acct 152 Biol 146 lect (TTh) Bus Adm 113X Econ 2B Econ 182 Eng A (comp) Eng 52B (Eng lit) Fr 2B Fr 110 Geog 252 (MW to 8) Ger 2B Hist 174	Acct 2B (MW 7:30-9:30) Acct 135X (MWTh to 8:35) Biol 146 lab (TTh to 9) Bus Adm 105X Econ 251X (MW 7:30-9:30) Eng 2B (comp) Eng 162 (Eng lit) Fr 3X Fr 4B Ger 4B Hist 150 Math 6	Bus Adm 232 (MW to 10) Bus Adm 292 (TTh to 10) Eng 1X (comp) Pol Sc 213X (TTh to 10) Pol Sc 272 (MW to 10) Pol Sc 291X (TTh to 10) Stat 53X lab (TTh to 9:50) Stat 116 lab (MW to 9:50)

## SECOND SESSION—EVENING CLASSES (Continued)

5:10	6:10	7:10	8:10
	Math 3x Math 12B Math 134 Phys 6B lect (TTh) Phys 6B rec (MW) Phys 8 lect (MWF) Phys 8 rec (TTh) Span 4B Span 110 Speech 11x (MTWTh 5:55-7) Stat 53x lect (MTWTh) Zoo 2 lect (MTWTh) Zoo 144 lect (MW)	Math 19x Math 20B Phil 52 (TWTh to 8:35) Phys 6B lab (MW to 9:30) Phys 113x Pol Sc 10B Pol Sc 172 (MWTh to 8:35) Psych 131x (TTh to 9:15) Psych 254 (MW to 9) Soc 132 (MWF to 8:35) Span 2B Span 3x Speech 12B (MTWTh to 8:15) Stat 116 lect (MTWTh) Zoo 2 lab (MTWTh to 9) Zoo 144 lab (MTWTh to 9)	





# ERRATA

The Board of Trustees of The George Washington University, on May 15, 1952, authorized changes in the fees stated on pages 22 and 23 of the 1952-53 general catalogue, effective September 1, 1952, as follows:

## TUITION FEES

For each credit hour for which the student registers (except work in the Law School and work taken by a candidate for a Doctor's degree).....	\$14.00
For each credit hour for which the student registers in the Law School...	16.00
For the degrees of Doctor of Philosophy, Doctor of Education, and Doctor of Business Administration:	
For work leading to and including the Council Fellowship or general examination .....	420.00
For work leading to and including the final examination.....	420.00
For the degree of Doctor of Juridical Science:	
For work leading to and including the final examination.....	420.00
Residence fee, charged each student wishing to maintain "in residence" status during any term of absence from the University or after completion of tuition requirements:	
In the Law School.....	16.00
In all other colleges, schools, and divisions.....	14.00



THE CATALOGUE ISSUE

1952-53





THE  
GEORGE  
WASHINGTON  
UNIVERSITY  
BULLETIN

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VOL. LI

No. 5

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THE CATALOGUE ISSUE

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WASHINGTON, D. C.

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## CONTENTS

	Page
THE UNIVERSITY CALENDAR.....	vii
OFFICERS AND COMMITTEES OF THE UNIVERSITY.....	xiv
The Board of Trustees.....	xv
Standing Committees of the Board of Trustees.....	xvii
Officers of Administration.....	xix
The Academic Council.....	xxi
Standing Committees of the Faculty.....	xxiii
Emeritus Faculty .....	xxv
Faculty and Staff of Instruction.....	xxvii
Administrative Assistants .....	lxvii
THE UNIVERSITY .....	1
History and Organization.....	3
Educational Facilities .....	8
Admission .....	12
Registration .....	21
Fees and Financial Regulations.....	22
Fellowships, Scholarships, Prizes, Financial Aid.....	26
Regulations .....	38
THE COLLEGES, SCHOOLS, AND DIVISIONS.....	45
The Junior College.....	47
Columbian College (the senior college).....	63
The Graduate Council.....	84
The School of Medicine.....	90
The Law School.....	101
The School of Engineering.....	115
The School of Pharmacy.....	126
The School of Education.....	134
The School of Government.....	153
The College of General Studies.....	169
The Division of University Students.....	172
The Division of Special Students.....	173
The Division of Air Science.....	175
The Summer Sessions.....	177
ADMINISTRATIVE UNITS .....	179
Health Administration .....	181
Veterans Education .....	183
COURSES OF INSTRUCTION.....	185
Accounting .....	189
Air Science and Tactics.....	193
Anatomy .....	195
Anesthesiology .....	197
Art .....	198
Bacteriology, Hygiene, and Preventive Medicine.....	201

	Page
Biochemistry .....	204
Biology .....	206
Botany .....	208
Business Administration .....	211
Chemistry .....	216
Civil Engineering .....	221
Classical Languages and Literatures.....	224
Dermatology and Syphilology.....	225
Economics .....	226
Education .....	233
Electrical Engineering .....	240
English .....	243
Geography .....	250
Geology .....	254
Germanic Languages and Literatures.....	255
History .....	257
Home Economics .....	262
Journalism .....	265
Law .....	267
Mathematics .....	276
Mechanical Engineering .....	279
Medicine .....	282
Military Science and Tactics.....	286
Neurology and Neurological Surgery.....	287
Obstetrics and Gynecology.....	288
Ophthalmology .....	290
Otolaryngology .....	291
Pathology .....	292
Pediatrics .....	293
Pharmacology .....	295
Pharmacy .....	297
Philosophy .....	302
Physical Education for Men.....	304
Physical Education for Women.....	309
Physical Medicine and Rehabilitation.....	314
Physics .....	315
Physiology .....	320
Political Science .....	322
Psychiatry .....	327
Psychology .....	329
Radiology .....	336
Religion .....	337
Romance Languages and Literatures.....	339
Secretarial Studies .....	345
Sociology .....	347
Speech .....	350
Statistics .....	353
Surgery .....	358
Urology .....	361
Zoology .....	362
STUDENT LIFE .....	365
INDEX .....	375

THE UNIVERSITY CALENDAR



1952							1953													
July							January							July						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
..	..	1	2	3	4	5	..	..	..	..	1	2	3	..	..	..	1	2	3	4
6	7	8	9	10	11	12	4	5	6	7	8	9	10	5	6	7	8	9	10	11
13	14	15	16	17	18	19	11	12	13	14	15	16	17	12	13	14	15	16	17	18
20	21	22	23	24	25	26	18	19	20	21	22	23	24	19	20	21	22	23	24	25
27	28	29	30	31	..	..	25	26	27	28	29	30	31	26	27	28	29	30	31	..
August							February							August						
..	..	..	..	..	1	2	1	2	3	4	5	6	7	..	..	..	..	..	1	2
3	4	5	6	7	8	9	8	9	10	11	12	13	14	2	3	4	5	6	7	8
10	11	12	13	14	15	16	15	16	17	18	19	20	21	9	10	11	12	13	14	15
17	18	19	20	21	22	23	22	23	24	25	26	27	28	16	17	18	19	20	21	22
24	25	26	27	28	29	30	..	..	..	..	..	..	..	23	24	25	26	27	28	29
31	..	..	..	..	..	..	..	..	..	..	..	..	..	30	31	..	..	..	..	..
September							March							September						
..	1	2	3	4	5	6	1	2	3	4	5	6	7	..	..	1	2	3	4	5
7	8	9	10	11	12	13	8	9	10	11	12	13	14	6	7	8	9	10	11	12
14	15	16	17	18	19	20	15	16	17	18	19	20	21	13	14	15	16	17	18	19
21	22	23	24	25	26	27	22	23	24	25	26	27	28	20	21	22	23	24	25	26
28	29	30	..	..	..	..	29	30	31	..	..	..	..	27	28	29	30	..	..	..
October							April							October						
..	..	..	1	2	3	4	..	..	..	1	2	3	4	..	..	..	1	2	3	4
5	6	7	8	9	10	11	5	6	7	8	9	10	11	4	5	6	7	8	9	10
12	13	14	15	16	17	18	12	13	14	15	16	17	18	11	12	13	14	15	16	17
19	20	21	22	23	24	25	19	20	21	22	23	24	25	18	19	20	21	22	23	24
26	27	28	29	30	31	..	26	27	28	29	30	..	..	25	26	27	28	29	30	31
November							May							November						
..	..	..	..	..	..	1	..	..	..	..	..	1	2	1	2	3	4	5	6	7
2	3	4	5	6	7	8	3	4	5	6	7	8	9	8	9	10	11	12	13	14
9	10	11	12	13	14	15	10	11	12	13	14	15	16	15	16	17	18	19	20	21
16	17	18	19	20	21	22	17	18	19	20	21	22	23	22	23	24	25	26	27	28
23	24	25	26	27	28	29	24	25	26	27	28	29	30	29	30	..	..	..	..	..
30	..	..	..	..	..	..	31	..	..	..	..	..	..	..	..	..	..	..	..	..
December							June							December						
..	1	2	3	4	5	6	..	1	2	3	4	5	6	..	..	1	2	3	4	5
7	8	9	10	11	12	13	7	8	9	10	11	12	13	6	7	8	9	10	11	12
14	15	16	17	18	19	20	14	15	16	17	18	19	20	13	14	15	16	17	18	19
21	22	23	24	25	26	27	21	22	23	24	25	26	27	20	21	22	23	24	25	26
28	29	30	31	..	..	..	28	29	30	..	..	..	..	27	28	29	30	31	..	..

# THE UNIVERSITY CALENDAR \*

1952-53

Date	Day	Occasion
<b>1952</b>		
<b>FALL TERM:</b>		
Sept. 23 .....	Tuesday .....	Meeting of the University Faculty Examinations for students who wish to qualify for advanced courses or waive curriculum re- quirements
Sept. 24-26 ...	Wednesday through Friday .....	Registration
Sept. 29 .....	Monday .....	Academic year begins
Oct. 9 .....	Thursday .....	Stated meeting of the Board of Trustees
Oct. 10 .....	Friday .....	Last day on which candidates may file thesis subjects for the Master's degrees conferred in February
Oct. 17 .....	Friday .....	Last day on which candidates may file dissertation subjects for the degrees of Doctor of Philosophy, Doctor of Educa- tion, and Doctor of Business Administration to be conferred the following May
Nov. 11 .....	Tuesday .....	Fall Convocation. Holiday
Nov. 27-29 ...	Thursday through Saturday .....	Thanksgiving recess
Dec. 2 .....	Tuesday .....	Meeting of the Academic Council
Dec. 11 .....	Thursday .....	Stated meeting of the Board of Trustees
Dec. 22-Jan. 3.	Monday through Saturday .....	Christmas recess
<b>1953</b>		
Jan. 5 .....	Monday .....	Classes resume
Jan. 9 .....	Friday .....	Last day for receiving theses of candidates for the Master's de- grees and for the professional degrees in Engineering to be conferred in February.

\* In the School of Medicine, registration is conducted September 11 and 12, classes begin September 15.

## THE UNIVERSITY CALENDAR—Continued

Date	Day	Occasion
Jan. 9 .....	Friday .....	Last day for receiving dissertations of candidates for the degrees of Doctor of Philosophy, Doctor of Juridical Science, Doctor of Education, and Doctor of Business Administration to be conferred in February
Jan. 17 .....	Saturday .....	Last day of classes for the fall term
Jan. 19-27 ....	Monday through Tuesday .....	Fall term examination period
SPRING TERM: Jan. 28 .....	Wednesday .....	Examinations for students who wish to qualify for advanced courses or waive curriculum requirements
Jan. 29 and 30.	Thursday and Friday..	Registration
Feb. 2 .....	Monday .....	Classes resume for the spring term
Feb. 12 .....	Thursday .....	Stated meeting of the Board of Trustees
Feb. 13 .....	Friday .....	Last day on which candidates may file thesis subjects for the Master's degrees to be conferred in May
Feb. 23 .....	Monday .....	Winter Convocation. Holiday
March 2 .....	Monday .....	Applications for fellowships for 1953-54 should be filed
March 12 .....	Thursday .....	Stated meeting of the Board of Trustees
April 1 .....	Wednesday .....	Applications for scholarships for 1953-54 should be filed
April 3 and 4 ..	Friday and Saturday..	Easter recess
April 7 .....	Tuesday .....	Meeting of the University Faculty
April 13 .....	Monday .....	Last day for receiving dissertations of candidates for the degrees of Doctor of Philosophy, Doctor of Education, and Doctor of Business Administration to be conferred in May
		Last day on which candidates may file dissertation subjects for the degrees of Doctor of Philosophy, Doctor of Education, and Doctor of Business Administration to be conferred the following February
April 28 .....	Tuesday .....	Meeting of the Academic Council



## THE UNIVERSITY CALENDAR—Continued

Date	Day	Occasion
May 1 .....	Friday .....	Last day for receiving theses of candidates for the Master's degrees and for the professional degrees in Engineering to be conferred in May.
May 12 .....	Tuesday .....	Last day of classes for the spring term
May 13-21 ....	Wednesday through Thursday .....	Spring term examination period
May 14 .....	Thursday .....	Annual meeting of the Board of Trustees
May 24 .....	Sunday .....	Baccalaureate Sermon
May 27 .....	Wednesday .....	Commencement
<b>SUMMER TERM:*</b>		
June 1 .....	Monday .....	Registration for the first session of the summer term
June 2 .....	Tuesday .....	Classes begin
July 4 .....	Saturday .....	Independence Day. Holiday
July 27 .....	Monday .....	First summer session ends
July 28 .....	Tuesday .....	Registration for the second session of the summer term
July 29 .....	Wednesday .....	Classes begin
Sept. 7 .....	Monday .....	Labor Day. Holiday
Sept. 11 .....	Friday .....	Last day for receiving dissertations of candidates for the degrees of Doctor of Philosophy, Doctor of Education, and Doctor of Business Administration to be conferred in November
Sept. 18 .....	Friday .....	Second summer session ends
		Last day for receiving theses for the Master's degrees and for the professional degrees in Engineering to be conferred in November
Sept. 23-25 ...	Wednesday through Friday .....	Registration for the fall term of the academic year 1953-54

\* The dates of the calendar for the Law School will be announced.  
 The calendar for the special sessions of the School of Education is as follows: Pre-session, June 8-16; Six-Week Session, June 29-August 7; Post-session, August 10-18. Registration for each of these sessions is on the first day of classes.



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OF THE UNIVERSITY





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\* On sabbatical leave 1952-53.

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\* On leave of absence 1952-53.

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HUGH OSGOOD HOUSE, A.B., M.D. <i>Associate University Physician</i>	1835 I St.
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\* On leave of absence 1952-53.



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 Anne von Ammon, *Assistant, Periodical Room*  
 Michael Walker, A.B., *Assistant, Reserve Book Reading Room*  
 Katherine Louis Callahan, A.B., *Assistant, Circulation and Reference*  
 Anne Albert Best, *Assistant, Cataloguing*  
 Elinor Ehlschlager, A.B., *Assistant, Cataloguing*  
 Hazel Oliver, A.B., *Assistant, Periodical Room*  
 Jane Fulcher, A.B., *Assistant, Medical Library*  
 Margaret Bowen, *Assistant, Medical Library*

# OFFICE OF THE COMPTROLLER

George Van Dyke, M.S., *Assistant Comptroller*  
 Albert Eldridge Smith, B.C.S., *Accountant*  
 John Avis McLaughlin, A.B., *Assistant Comptroller*  
 William Morton Jenkins, M.C.S., *Assistant Comptroller*  
 Margaret Payne Greene, B.S., *Assistant to the Comptroller*  
 Jessie Mae Packett, *Assistant to the Comptroller*  
 William Rydholm, *Assistant on Government Research Contracts*  
 Billie Childress Plank, A.B., *Secretary to the Comptroller*

# DISBURSING OFFICE

Lamar Lyon Burton, B.S., *Disbursing Officer*  
 Beatrice Coffman Warder, *Assistant to the Disbursing Officer*  
 Virginia Lee Bell, B.S., *Accounting Machine Operator*  
 Marie Kaffman Leath, *Voucher Assistant and Accounting Machine Operator*  
 Sheila Elizabeth Campbell, *Accounting Machine Operator*  
 Carmen Garcia, *Payroll Clerk*  
 Mildred Cobb Miller, B.Mus., *Clerk*  
 Karlene Mac Holden, *Clerk*

## OFFICE OF THE CASHIER

Joseph Hume Spicer, B.C.S., *Cashier*  
Daniel John Tyrrell, *Assistant Cashier*  
William Dewell McCown, A.B., *Assistant Cashier, Veterans Section*  
Mary Elizabeth Beck, B.S., *Assistant to the Cashier*  
Nina Jo Hackett, *Assistant, Veterans Section*  
Betty Lou George, *Assistant*  
Barbara Terry, *Assistant, Veterans Section*  
Carol Mae Holmgren, *Clerk*  
Martha Robinson Death, A.B., *Clerk*  
Mandalene Swindell Marshall, *Clerk, Veterans Section*

## OFFICE OF THE BUSINESS MANAGER

John Collum Einbinder, A.B. in Govt., *Assistant to the Business Manager*  
Henrietta Rosenblatt, *Purchasing Agent*  
Ina Ruth Friedenberg, A.B., *Clerk*  
Vincent Duwain Bateman, *Assistant Purchasing Agent*  
George John Janetis, *Custodial Supervisor*  
James William Maximow, *Supervisor of University Stores*  
Marcus McKay Remington, *Clerk, University Stores*  
George Dewey Eckert, *Superintendent of Shop*  
Lucille Pleasants, *Clerk, University Shop*  
Lilian Wright Smith, *Garden Consultant*  
Birdie Harris, *Manager, Student Union*  
Karolina Hedler, B.S., *Assistant Manager, Student Union*  
Wilhelmina Hamilton, *Clerk, University Cooperative Store*  
Margaret Hughes Pfaefflin, *Chief Telephone Operator*  
Dilla Wright, *Telephone Operator*

## PUBLIC RELATIONS

Margaret Davis, A.M., *Assistant Director of Public Relations*  
Elma Williams, *Staff Writer*  
Thomas Joseph Coleman, *Assistant in Athletic Publicity*  
Margaret Esther Royce, *Secretary*

## ALUMNI RELATIONS

Sara Ford Dallmeyer Pine, *Assistant Director of Alumni Relations*  
Mary Dow, *Record Clerk and Editor of the Law Alumni Directory*  
Mary Ann Smith, *Secretary*

## OFFICE OF THE AIR FORCE RESERVE OFFICERS TRAINING CORPS

Charles Arthur Billman, *Air Force Property Custodian*  
Gerd Elisabet Schmidt, *Secretary*



STUDENT ACTIVITIES

Felicia Mary Miller, A.M., *Assistant to the Director of Activities for Women*

Ramona Samples, *Secretary, Office of the Director of Activities for Women*

Edith Elizabeth Harper, A.B., *Student Activities Assistant*

Myrtle Leona Dozier, *Secretary, Office of the Director of Activities for Men*

Helen Louise O'Brien, *Secretary, Office of the Director of Activities for Men*

INTERCOLLEGIATE ATHLETICS

John Howell Rowland, LL.B., *Head Football Coach*

William Jennings Reinhart, B.B.A., *Head Baseball and Head Basketball Coach*

Eugene Hughy Sherman, Sr., B.S., *Assistant Football Coach and Freshman Basketball Coach*

Matthew Zunic, B.S., *Assistant Basketball Coach*

Howard Bowers, M.S., *Assistant Football Coach*

Richard Walkup Johnson, A.B., *Assistant Football Coach*

Mike Millan, B.S., *Athletic Trainer*

MUSICAL ACTIVITIES

Robert Howe Harmon, A.B., M.D., *Director of the Glee Club*

Grace Ruble Harmon, *Associate Director of the Glee Club*

VETERANS EDUCATION

Virginia Mae Sherard, A.M., *Counselor and Assistant to the Director of Veterans Education*

Janet Wildman Johnson, A.B., *Assistant to the Director of Veterans Education*

Denny Virginia Lamb, A.B., *Chief Clerk*

RESIDENCE AND SORORITY HALLS

Zoa Van Winkle, B.S., *Hostess, Hattie M. Strong Residence Hall for Women*

Virginia Randolph Kirkbride, A.M., *Hostess, Sorority Hall, 2129 G Street*

Adele Berrian, *Hostess, Residence Hall for Women, 2025 H Street*

Myrtle Leona Dozier, *Hostess, Sorority Hall, 802 21st Street*



THE UNIVERSITY





## HISTORY AND ORGANIZATION

### HISTORY

The idea of a university located in the Capital of the Nation was sponsored by George Washington, who during his public life urged the establishment of such an institution and who in his will left fifty shares of stock in the Potomac (Canal) Company for the endowment of a university to be established in the District of Columbia "to which the youth of fortune and talents from all parts thereof might be sent for the completion of their Education in all the branches of polite literature;—in arts and Sciences,—in acquiring knowledge in the principles of Politics & good Government".

It was George Washington's hope that the "General Government" would extend toward such an institution "a fostering hand". No steps were taken by Congress to carry out the provision of Washington's will, and the stock that he had bequeathed for the establishment of a university in the District of Columbia became valueless owing to the failure of the Potomac Canal properties.

Meanwhile, however, a movement was started by private persons under the leadership of Luther Rice to establish an institution of higher learning at the seat of the National Government for the education of the Baptist ministry and to afford general collegiate training. In 1819 an association was formed by Luther Rice, Obadiah B. Brown, Spencer H. Cone, and Enoch Reynolds for the purpose of raising funds to buy land for the use of the college.

A group of the Nation's leaders who were especially interested in Washington's idea became patrons of the college and contributed to funds raised for the purchase of land and erection of buildings. Among them were James Monroe, President of the United States; William H. Crawford, Secretary of the Treasury; John C. Calhoun, Secretary of War; William Wirt, Attorney General; Return J. Meigs, Postmaster General; and thirty-two members of the Congress.

Legally to implement the college a petition was made to Congress for the incorporation of "the General Convention of the Baptist Denomination in the District of Columbia for evangelical and literary purposes". This petition was denied by Congress, on April 26, 1820, because of its sectarian character.

Failing to obtain a denominational charter, members of the association enlarged their objective to embrace national aims, and with the sponsorship of Government leaders there was presented in Congress a bill for the incorporation of "the Columbian Society for literary pur-

poses", it being proposed to realize in this way "the aspirations of Washington, Jefferson and Madison for the erection of a university at the seat of the federal government".

Acting upon this second petition, on February 9, 1821, Congress chartered Columbian College in the District of Columbia, inserting in the charter by special action the provision "That persons of every religious denomination shall be capable of being elected Trustees; nor shall any person, either as President, Professor, Tutor or pupil, be refused admittance into said College or denied any of the privileges, immunities or advantages thereof, for or on account of his sentiments in matters of religion".

Thus Columbian College in the District of Columbia was chartered by Congress as one of the early nonsectarian institutions of higher learning in the United States, under the distinguished favor of President James Monroe and members of his Cabinet.

A tract of approximately forty-seven acres, extending about one-half mile northwest of Boundary Street (Florida Avenue) between Fourteenth and Fifteenth Streets, was purchased and by 1822 the main building was completed sufficiently to use.

Two years later, when the first Commencement was held on December 15, 1824, Congress and the Supreme Court adjourned their sessions to enable their members to attend the exercises. President Monroe, John Quincy Adams, John C. Calhoun, Henry Clay, and the Marquis de Lafayette headed the eminent company in attendance.

By an act of Congress of March 3, 1873, the name of the college was changed to "Columbian University", in recognition of the enlarged scope of the institution. In 1884 the University was moved from its first location on "College Hill", now Columbia Heights, to the new University Hall built for it at Fifteenth and H Streets. Near-by buildings accommodated the School of Medicine and, somewhat later, the Law School.

For a period of six years, from 1898 to 1904, the University was placed under control of the Baptist Denomination. In 1904 an act restoring the original secular character of the University and authorizing change of name to The George Washington University was passed by Congress.

Subsequently all the colleges, schools, and divisions of the University except the School of Medicine were brought together in the area bounded by Nineteenth, Twenty-third, and G Streets, and Pennsylvania Avenue NW. The School of Medicine is situated on H Street between Thirteenth and Fourteenth Streets NW.

The endowment of the University is \$2,917,000.

In 1930 a new plan of academic organization for the liberal arts work was effected in the establishment of the Junior College and the redefining of graduate work, as indicated below.



### THE COLLEGES, SCHOOLS, AND DIVISIONS

The George Washington University includes thirteen colleges, schools, and divisions, as follows:

The Junior College offers the work of the first two years of the four-year college program in the liberal arts and sciences; two years of pre-professional work, and two-year terminal courses. Each of these curricula leads to the degree of Associate in Arts.

Columbian College offers the work of the junior and senior years of the four-year college program in the liberal arts and sciences leading to the degrees of Bachelor of Arts and Bachelor of Science. It also offers the studies leading to the degrees of Master of Arts and Master of Science in the fields of the liberal arts and sciences.

The Graduate Council offers a program of advanced study and research leading to the degree of Doctor of Philosophy.

The School of Medicine offers work leading to the degree of Doctor of Medicine.

The Law School offers professional and graduate courses leading to the degrees of Bachelor of Laws, Juris Doctor, Master of Laws, Master of Comparative Law, and Doctor of Juridical Science.

The School of Engineering offers courses leading to the degrees of Bachelor of Civil Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering, and Bachelor of Science in Engineering. It also directs work leading to the professional degrees in the fields of civil, electrical, and mechanical engineering.

The School of Pharmacy offers courses leading to the degrees of Bachelor of Science in Pharmacy and Master of Science in Pharmacy.

The School of Education offers undergraduate programs leading to the degrees of Bachelor of Arts in Education, Bachelor of Science in Home Economics, and Bachelor of Science in Physical Education, and graduate studies leading to the degrees of Master of Arts in Education and Doctor of Education.

The School of Government offers undergraduate programs of study in Foreign Affairs, Accounting, Business Administration, and Statistics, leading to the degree of Bachelor of Arts in Government. Graduate work is offered leading to the following degrees: Master of Arts in Government in the fields of Foreign Affairs, Economic Policy, Accounting, Business and Economic Statistics, and Vocational Counseling; Master of Arts in Public Administration in the fields of General Administration and Governmental Fiscal Administration; Master of Arts in Personnel Administration; Master of Business Administration; and Doctor of Business Administration.

The College of General Studies supplements the adult education program of the University through its Off-Campus Division, Campus Division, and Division of Community Services.

The Division of University Students makes available courses for mature students, not candidates for degrees in this University.

The Division of Special Students makes available courses for students in the process of qualifying for degree candidacy.

The Division of Air Science offers a program of Air Force ROTC training which is integrated with the curricula of the colleges and schools of the University and leads to appointment as a commissioned officer in the United States Air Force Reserve.

The Summer Sessions.

#### ACADEMIC STATUS

The George Washington University is on the final approved list of the Association of American Universities. This fact not only assures to students the academic standards of this association, but also is important to those who desire to transfer credits from one institution to another.

The University is also accredited by its regional accrediting agency, the Middle States Association of Colleges and Secondary Schools, and is on the approved list of the American Association of University Women. The University is a member of the College Entrance Examination Board.

The Law School is a charter member of the Association of American Law Schools and is approved by the Section of Legal Education and Admissions to the Bar of the American Bar Association. The School of Medicine is a member of the Association of American Medical Colleges and is one of the medical colleges which have been continuously approved by the American Medical Association. The School of Pharmacy is accredited by the American Council on Pharmaceutical Education as a class "A" school. It is a member of the American Association of Colleges of Pharmacy. The School of Engineering is on the accredited list of the Engineers' Council for Professional Development.

#### LOCATION

The George Washington University is in downtown Washington four blocks west of the White House and east of the Potomac River with its extensive parkway. Readily accessible to the University are many of the departments of the Government, including the Department of State, the Department of the Treasury, the Department of Justice, the Department of the Army, the Department of the Navy, the Department of the Interior, the Department of Agriculture, the Department of Commerce, and the Department of Labor, as well as the National Archives, the Capitol, the Library of Congress, the National Academy of Sciences, the Pan American Union, the National Gallery of Art, and the Corcoran Gallery of Art.

GOVERNMENT

The government and general educational management of The George Washington University are vested in a self-perpetuating Board of Trustees, with the President of the University as a member *ex officio*. The members of the Board are named for a period of three years and are divided into three classes. The members of one class are elected at each annual meeting to fill the places of the members whose terms of office expire. Two members of each class are nominated by the Alumni Association.



## EDUCATIONAL FACILITIES

### BUILDINGS

Buildings, grounds, and equipment are valued at approximately \$18,000,000.

The buildings of the Junior College, Columbian College, the Graduate Council, the Law School, the School of Engineering, the School of Pharmacy, the School of Education, the School of Government, the Division of University Students, the Division of Special Students, and the University Hospital and Outpatient Department are located between Nineteenth and Twenty-third Streets and between Pennsylvania Avenue and G Street. The School of Medicine is at Fourteenth and H Streets NW. The buildings of the University are as follows:

Chapin Hall, 2128 H Street (rear). Named in honor of the late Stephen Chapin, President of the University from 1828 to 1841. Offices and classrooms of the Air Force ROTC.

Corcoran Hall, 725 Twenty-first Street. Named in honor of the late William W. Corcoran, benefactor of the University and a former member of the Board of Trustees. Offices of the Comptroller, the departments of Chemistry, Electrical Engineering, and Physics; the chemistry, electrical engineering, and physics laboratories; classrooms.

Everglades Apartments, 2223 H Street, a residence hall for nurses.

Faculty Club House, 714 Twenty-first Street.

Gymnasium, 2010-12 H Street.

Hall of Government, 710 Twenty-first Street. The gift of the late Mrs. Henry Alvah Strong, former Trustee of the University. Offices of the Dean of the School of Government, the departments of Accounting, Business Administration, Economics, History, Political Science, and Statistics; classrooms.

Harlan-Brewer House, 1923 H Street. Offices of law student organizations, lounges, reading rooms.

Hospital and Outpatient Department, Washington Circle.

International House, 2110 G Street. Office of the Adviser to Students from Foreign Countries; club rooms.

Lisner Auditorium, 730 Twenty-first Street. The gift of the late Abram Lisner, former Trustee of the University. The Auditorium; Lisner Lounge; offices and classrooms of the Department of Speech.

Mechanical Engineering Building, 735 Twenty-first Street. Offices of the departments of Electrical and Mechanical Engineering; engineering testing laboratories, general laboratories, drafting rooms, and classrooms.

James Monroe Hall, 2115 G Street. Offices of the Dean of the Junior College, the Dean of Columbian College, the Dean of the Division of University Students, the Dean of the School of Education, and the Director of the Air Force Manpower Management Training Program; the departments of Art, Classical Languages, Education, English (English Literature), Germanic Languages, Journalism, Mathematics, Philosophy, Psychology, and Secretarial Studies; classrooms.

Office of the President, 2003 G Street. Offices of the President and Administrative Secretary.

Placement Office, 2114 G Street.

Residence Halls for Men:

Draper Hall, 2201 G Street. Residence hall for veterans.

2115 H Street. Veterans' family units.

Welling Hall, 814 Twenty-second Street. Residence Hall for Men. Named in honor of the late James Clarke Welling, President of the University from 1871 to 1894.

School of Medicine, 1335 H Street. Offices of the Staff of the School of Medicine; laboratories; the Medical Library; lecture rooms; classrooms; students' rooms.

Medical Laboratory Building.

Research Building.

Sorority Halls:

2129 G Street. Apartments of Pi Beta Phi, Chi Omega, Sigma Kappa, Phi Mu, Alpha Delta Pi, Delta Zeta, Zeta Tau Alpha, and Kappa Kappa Gamma sororities.

2131 G Street. Apartments of Delta Gamma Sorority and Martha Washington Club.

802 Twenty-first Street. Apartment of Phi Sigma Sigma sorority.

2112 G Street. Apartments of Kappa Alpha Theta and Kappa Delta sororities.

Staughton Hall, 707 Twenty-second Street. Named in honor of the late William Staughton, President of the University from 1821 to 1827. Office of the Coordinator of Scientific Activities; offices, research laboratories, Reading Clinic.

Stockton Hall, 720 Twentieth Street. Named in honor of the late Rear Admiral Charles Herbert Stockton, President of the University from 1910 to 1918. Offices, library, and lecture halls of the Law School.

Strong Residence Hall for Women, 620 Twenty-first Street. Named in honor of the donor, the late Mrs. Henry Alvah Strong, former Trustee of the University.

Student Union, 2125 G Street. Offices of student organizations, student cafeteria and snack bar, reading room, lounge, game and music rooms.

University Cooperative Store, 2120 H Street.

University Library, 2023 G Street. The gift of the late Abram Lisner, former Trustee of the University. The library, rooms of the Board of Trustees and the Graduate Council.

Woodhull House, 2033 G Street. Gift of the late General Maxwell Van Zandt Woodhull, former Trustee of the University. Office of the Director of Activities for Women; meeting rooms for student and alumni activities.

Building A, 2026 G Street. Offices of the Department of Romance Languages.

Building B, 2024 G Street. Offices, laboratories, and classrooms of the Department of Home Economics.

Building C, 2029 G Street. Offices of the Registrar and the Director of Admissions; offices and laboratories of the departments of Biology, Botany, and Zoology; classrooms.

Building F, 2018 I Street. Offices of the Dean of the College of General Studies and the Dean of the Summer Sessions.

Building G, 712 Twentieth Street. Offices of the Department of English (Composition section).

Building H, 714-16 Twentieth Street. Offices and locker rooms of the Department of Physical Education for Women.

Building I, 2135 G Street. Offices, classrooms, and laboratories of the Department of Geography.

Buildings J and L, 2131 and 2129 G Street (rear). Classroom and locker rooms of the Department of Physical Education for Women.

- Buildings M and N, 716-18 Twenty-first Street. Offices of the Dean of the School of Engineering and the Department of Civil Engineering.
- Building O, 2106 G Street. Office of the Department of Religion.
- Building P, 2108 G Street. Offices of the Student Health Service and the Dean of the Division of Special Students.
- Building Q, 2029 H Street. Office of the Director of Veterans Education.
- Building R, 2027 H Street. Offices of the Director of Activities for Men, the Department of Physical Education for Men, and the Athletic Staff.
- Building S, 2025 H Street. Residence Hall for Women.
- Building U, 2018 I Street. Offices of the Director of Alumni Relations and the Director of Public Relations.
- Building V, 2114 H Street. Laboratories and classrooms of the Department of Physics.
- Building W, 2128 H Street. Offices of the School of Pharmacy; pharmacy laboratories; classrooms.
- Building X, 725 Twenty-third Street. Drafting rooms and classrooms of the School of Engineering.

#### THE UNIVERSITY LIBRARY

The University Library contains 250,000 volumes. The well equipped Library building houses all of the library except the law and medical collections. Over 6,000 bound volumes are added annually, and approximately 900 periodicals and publications of learned societies are received currently. Among the special collections of the Library are the Library of the Carnegie Endowment for International Peace, purchased by the University in 1950; the W. Lloyd Wright collection of Washingtoniana, acquired in 1950; the Richard Heinzel Collection of Germanic philology and literature; the Curt Wachsmuth Collection of Greek and Roman literature, archeology, and history; the Mount Vernon Collection on political history, international law, and the social sciences; a representative collection of Spanish American books, the gift of the governments of Hispanic America; the Chauncey Mitchell Depew Public Speaking Collection, the gift of the late Mrs. Depew; and the Art Collection, made available by the American Institute of Architects, and the 7,500 mounted photographs of the Russell Sturgis Collection.

#### OTHER LIBRARY FACILITIES

The student has access also to the Library of Congress; the Public Library of the District of Columbia and its branches; the Library of the Pan American Union; the Library of the Bureau of Railway Economics; the Library of the United States Department of Agriculture; the Library of the United States Office of Education; the Army Medical Library; the Library of the Smithsonian Institution; and many of the other great special collections of the government departments.



## GOVERNMENTAL INSTITUTIONS ACCESSIBLE TO STUDENTS

The Congress of the United States has made the scientific resources of the Government accessible to students under the terms of the following joint resolution, approved April 12, 1892:

*Resolved by the Senate and House of Representatives of the United States of America, in Congress assembled,* That the facilities for research and illustration in the following and any other Governmental collections now existing or hereafter to be established in the city of Washington for the promotion of knowledge shall be accessible, under such rules and restrictions as the officers in charge of each collection may prescribe, subject to such authority as is now or may hereafter be permitted by law, to the scientific investigators and to students of any institution of higher education now incorporated or hereafter to be incorporated under the laws of Congress or of the District of Columbia, to wit:

- One. Of the Library of Congress.
- Two. Of the National Museum.
- Three. Of the Patent Office.
- Four. Of the Bureau of Education.
- Five. Of the Bureau of Ethnology.
- Six. Of the Army Medical Museum.
- Seven. Of the Department of Agriculture.
- Eight. Of the Fish Commission.
- Nine. Of the Botanic Gardens.
- Ten. Of the Coast and Geodetic Survey.
- Eleven. Of the Geological Survey.

## ADMISSION

All colleges, schools, and divisions of the University accept men and women, except the Division of Air Science.

Students may enter any college, school, or division of the University except the School of Medicine at the beginning of the fall term, the spring term, or any of the sessions of the summer term.

Entrance to the School of Medicine in 1952-53 is permitted only at the opening of the term beginning September 1952.

### GENERAL ADMISSION REQUIREMENTS

The following factors are considered in determining the eligibility of an applicant for admission:

1. The adequacy of previous academic work as preparation for the course of study now contemplated—including quantity and quality of work and the standing of the institution in which it was done.
2. The aptitude of the student for the course contemplated.
3. The character of the student.

The University reserves the right to refuse admission to any student who has a previous academic record of such grade as to create doubt of his ability to pursue college work successfully, or who for any other reason would not be a desirable student.

### APPLICATION FOR ADMISSION

An applicant for admission must obtain from the Office of the Director of Admissions an application blank which he must fill out completely and return with the application fee of \$3 (\$5 for the School of Medicine). A recent photograph, with signature, of the applicant must be attached to the blank.

An applicant for admission to the Reserve Officers' Training Corps must also fill out and return a supplemental AF-ROTC application form.

*Applications should be filed not later than July 1 for the fall term, January 1 for the spring term, and May 1 for the summer term.*

*An applicant from a secondary school must send the high school record form provided by the University to his high school principal with the request that the principal fill out the form and mail it direct to the Office of the Director of Admissions.*

*An applicant who has previously attended an institution of higher learning must request the registrar of that institution to mail directly to the Office of the Director of Admissions a transcript of his record. If he has attended more than one such institution he must request the regis-*

trar of each institution to send to the Office of the Director of Admissions a transcript of his record, *even though credits were not earned*, together with an honorable dismissal from the institution last attended.

The Graduate Record Examination sponsored by the Carnegie Foundation for the Advancement of Teaching is accepted as supplemental evidence of the applicant's educational attainment, and the appropriate report should accompany the application for admission whenever available.

#### METHODS OF ADMISSION FROM SECONDARY SCHOOLS

An applicant from a secondary school may seek to qualify for admission by certificate or examination.

##### By Certificate

A certificate of graduation with a minimum of fifteen "units"\* from an accredited secondary school and the recommendation from the principal of the secondary school that the applicant is prepared to undertake college work will be considered subject to the following conditions:

1. If the school is accredited by the regional accrediting association, the student must rank not lower than the third fifth of his class.
2. If the school is not listed by the regional accrediting association, but has been accredited by the state accrediting agency, the student must rank in the upper two fifths of his class.

##### By College Entrance Board Examinations

An applicant may qualify by passing satisfactorily College Entrance Board examinations as prescribed by the Director of Admissions. These examinations are given at a large number of examination centers throughout the United States, including Washington, D. C., on May 17, August 13, and December 6, 1952; and January 10, March 14, May 16, and August 12, 1953.

Arrangements for the examinations should be made with the College Entrance Examination Board, Post Office Box 592, Princeton, N. J., not less than one month before the date of the examinations.

#### FROM HIGHER INSTITUTIONS ‡

An applicant for advanced standing may be considered for admission upon the presentation of satisfactory credentials from an accredited institution of higher learning. The student must be in good standing as to scholarship and conduct, and must be eligible to return to the pre-

\* A unit represents a year's study in a secondary school subject, including in the aggregate not less than 120 sixty-minute periods of prepared classroom work.

‡ The University reserves the right to refuse advance credit in whole or in part, or to allow it provisionally. Credit so given may be withdrawn for subsequent poor work.



viously attended institution in the term for which he seeks admission to this University.

If the transcript of record from such an institution includes the record of his secondary school work, it is not necessary for the applicant to have forwarded a separate record directly from the principal of the secondary school. High school work is considered only as fulfilling entrance requirements; it is never credited toward advanced standing.

Properly certified courses taken at accredited colleges or universities may be applied toward a degree at this University, subject to the curriculum requirements and regulations of the school or college to which admission is sought. Work of low pass grade (such as *D* or the equivalent) will not be considered for transfer.

#### ENTRANCE REQUIREMENTS

##### THE JUNIOR COLLEGE

An acceptable certificate of graduation from an accredited secondary school, or the satisfactory passing of College Entrance Board examinations selected with the approval of the Director of Admissions is required. (See "Methods of Admission".)

*Distribution of Units for All Curricula.*—Certification by the principal that the student has satisfied all curriculum requirements of the school will be accepted in lieu of any prescribed distribution of units. Attention is called, however, to the necessity of completing stated prerequisite studies during the secondary school period for admission to certain curricula. It is to be noted that one unit of algebra is prerequisite to courses in chemistry, mathematics, physics, and statistics and that in addition one unit of plane geometry is prerequisite to courses in mathematics and physics. In the instance of applicants who do not meet the above stated mathematics requirements, algebra and plane geometry may be taken without college credit when offered by the Department of Mathematics. For a statement of the foreign language requirements see page 55.

A desirable secondary school program in preparation for college would include: four years of English, four years of foreign language (preferably one language rather than two), two years of natural or physical science with laboratory instruction (and over and beyond the so-called "General Science"), two or three years of social studies (with concentration on history), one or two years of basic mathematics.

##### COLUMBIAN COLLEGE (THE SENIOR COLLEGE)

##### For the Bachelor's Degrees

Two years of Junior College work leading to the degree of Associate in Arts, or the lower-division work in institutions not organized on the

junior-senior-college plan, following a specified curriculum, meet the minimum requirements of Columbian College. In addition, however, scholarship requirements for admission may be set somewhat higher than those for graduation from the Junior College.

*Bachelor of Arts.*—An Associate in Arts degree based on the *Arts and Letters* curriculum in the Junior College, or the equivalent (see page 56), is required.

*Bachelor of Science.*—An Associate in Arts degree based on the *Science* curriculum in the Junior College, or the equivalent (see pages 56-57), is required.

#### For the Master's Degrees

An approved Bachelor's degree from an accredited higher institution is required. A student from an unaccredited institution may be admitted at the discretion of the Committee on Admission and Advanced Standing, but he will be required to take such extra work above the minimum requirements as may be prescribed. An appropriate distribution of courses and a superior quality of work in the major field are essential.

Applications for admission must be approved by the department or division and by the Dean.

*Master of Arts.*—The student's undergraduate curriculum must have included a program of study substantially equivalent to the Bachelor of Arts major in his chosen field at this University.

*Master of Science.*—The student's undergraduate curriculum must have included the equivalent of the undergraduate major at this University of the scientific department under which he desires to work.

#### THE GRADUATE COUNCIL

*Doctor of Philosophy.*—The student must possess an adequate academic preparation for advanced study in the proposed field, as evidenced by approved Bachelor's and Master's degrees, or the equivalent, together with acceptable personal qualities and capacity for creative work.

#### THE SCHOOL OF MEDICINE

*Doctor of Medicine.*—Ninety credit hours of work, exclusive of physical education, in an accredited higher institution are required, as follows:

1. Chemistry, sixteen credit hours as follows: (a) eight credit hours in general inorganic chemistry, of which at least four credit hours are laboratory work (qualitative analysis may be counted as general inorganic chemistry); (b) eight credit hours or a one-year college course of organic chemistry, including laboratory work.

2. Physics, eight credit hours, of which at least two credit hours are laboratory work. It is recommended that this course be preceded by one in trigonometry.

3. Biology, eight credit hours, of which at least four credit hours are laboratory work. This requirement may be satisfied by a course of eight credit hours in either general biology or zoology, or by four credit hours each in zoology and botany, but not by botany alone.

4. English composition and literature, six credit hours; the usual introductory college course or the equivalent. The student should develop facility in speaking and writing English.

5. Modern foreign language: a reading knowledge, preferably of French or German.

6. Electives. It is recommended that the remaining credit hours required include: (a) comparative vertebrate anatomy; (b) qualitative and quantitative chemical analysis; (c) social science and psychology.

#### Advanced Standing

A student who has satisfactorily attended one or two years at any other medical schools approved by the American Medical Association, and who has the necessary preliminary educational requirements, may be admitted to advanced standing.

#### THE LAW SCHOOL

##### For the Degrees of Bachelor of Laws and Juris Doctor

*Bachelor of Laws.*—A Bachelor's degree awarded upon completion of a four-year course in an approved college or university is required. All pre-legal work must be of a satisfactory quality and distribution. No student will be admitted who has been in attendance at another law school and who is ineligible to return to that school in good standing. From the applicants, a selection will be made by the Committee on Admissions.

*Juris Doctor.*—A student does not register as a candidate for this degree until his last year in the Law School. For details, see page 109.

#### ADVANCED STANDING

Advanced standing toward the degree of Bachelor of Laws may be granted only for work successfully completed in other law schools which are members of the Association of American Law Schools.

Advanced standing may not be granted for law work already counted toward the Bachelor of Arts or other pre-legal degree.

Students planning to attend summer school sessions at other law schools and desiring to use credits obtained at such schools in their course at this Law School must first have the courses they wish to take approved by the Dean. In no event will credits be recognized in excess of those which might be obtained in a similar period in this School.

Advanced standing toward the degree of Juris Doctor will not be granted.



### For the Graduate Degrees

*Master of Laws.\**—A Bachelor of Arts or equivalent degree from an approved college or university and a Bachelor of Laws or equivalent degree from a member school of the Association of American Law Schools are required. Candidates for admission must have attained an average grade on all work done for the Bachelor of Laws degree equivalent to the relative position of a *B* average in the standards of grading at this Law School, except that, in the discretion of the Committee on Graduate Studies, applicants otherwise eligible may be admitted on proof of experience and attainment as an alternative.

*Master of Comparative Law and Master of Comparative Law (American Practice).*—The following are required: (1) the successful completion of and graduation from a course in arts, philosophy, letters, or sciences, equivalent to graduation from a gymnasium, lycee, or liceo (junior college); and (2) graduation in law from a recognized foreign university where training was in Civil Law.

*Doctor of Juridical Science.*—The following are required: (1) the degree of Juris Doctor from this Law School; or (2) the degree of Bachelor of Arts from an approved college, the degree of Bachelor of Laws or the equivalent, earned with high rank, from a member school of the Association of American Law Schools, and outstanding capacity for scholarly work in the field of law.

### Unclassified Students

The following applicants may, at the discretion of the Dean, be admitted as unclassified students:

1. Those who, though eligible, do not desire to be degree candidates.
2. Those who are in good standing as degree candidates in other law schools which are members of the Association of American Law Schools.
3. Those who are not eligible for admission as candidates for degree but are members of the bar.

Unclassified students are required to participate in the work of the course and take examinations. Courses taken by unclassified students will not be credited toward degrees at this Law School.

### THE SCHOOL OF ENGINEERING

*Bachelor of Civil Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering, Bachelor of Science in Engineering.*

—An acceptable certificate of graduation from an accredited secondary school, or the satisfactory passing of College Entrance Board examinations in secondary school subjects selected with the approval of the Director of Admissions is required.

\* Satisfactory completion of one-half the work required for graduation from an accredited college satisfies the prelegal admission requirement if the applicant served not less than 20 continuous months in the U. S. armed forces during World War II prior to September 1948.

Nine and one-half of the fifteen units required for entrance must be distributed as follows: three in English, two in algebra, one in plane geometry, one-half in plane trigonometry, one in physics or chemistry, and two in one foreign language or history. A graduate of an approved high school who does not offer for admission the particular subjects required for the engineering curriculum, but who does present not less than fifteen acceptable units, may be admitted on condition, if such deficiency in the distribution of units does not exceed two units.

#### ADVANCED STANDING

Advanced standing may be granted for work successfully completed at accredited institutions of higher learning. Credit will be assigned by the School of Engineering to the extent that the work taken at previous institutions meets the requirements for the degree sought at this University, and subject to the general University regulations concerning satisfactory subsequent work.

#### THE SCHOOL OF PHARMACY

*Bachelor of Science in Pharmacy.*—An Associate in Arts degree based on the curriculum in Pharmacy in the Junior College (see page 57), or the equivalent is required.

A student who has received a Bachelor's degree from an accredited institution or who has completed work in the general cultural or foundational subjects of the pharmacy curriculum may be admitted to advanced standing. No more than one year of advanced standing will be granted a student from any institution other than an accredited college of pharmacy.

*Master of Science in Pharmacy.*—A Bachelor of Science degree from an accredited institution is required. A superior record and professional promise are essential.

#### THE SCHOOL OF EDUCATION

##### For the Bachelor's Degrees

*Bachelor of Arts in Education, Bachelor of Science in Home Economics, Bachelor of Science in Physical Education.*—An Associate in Arts degree based on the Education, Home Economics, or Physical Education curriculum in the Junior College (see pages 58-59), or the equivalent from another accredited higher institution, or a certificate of graduation from an approved normal school or the equivalent is required.

##### For the Master's Degree

*Master of Arts in Education.*—To be admitted to candidacy for the degree of Master of Arts in Education the applicant must: (1) hold a Bachelor's degree from an accredited institution; (2) have an under-

graduate quality-point index of 2.50 or above (C + average); (3) have demonstrated a genuine interest in teaching; (4) be in possession of personality traits that give promise of better-than-average success as a teacher.

To be admitted to candidacy in programs designed to prepare for service in guidance and administration two years of successful teaching experience are prerequisite.

#### For the Doctor's Degree

*Doctor of Education.*—The degree of Master of Arts in Education or the equivalent, and at least three years of satisfactory educational experience are required.

#### THE SCHOOL OF GOVERNMENT

##### For the Bachelor's Degree

*Bachelor of Arts in Government.*—An Associate in Arts degree based on the *Foreign Affairs, Accounting, Business Administration, or Statistics* curriculum in the Junior College (see pages 60-61), or the equivalent, and a quality-point index of 2.00 for the first two years' work are required.

##### For the Master's Degrees

A Bachelor's degree from an accredited college or university is required. A student from an unaccredited institution may be admitted at the discretion of the Dean's Council, but will be required to take such extra work above the minimum requirements as may be prescribed.

Students admitted to candidacy must have attained a quality-point index of 3.00 (a "B" average) in their undergraduate major. Applicants whose scholastic average is below 3.00 in their major, or who lack prerequisite courses, may be referred to the Division of Special Students to make up the deficiency.

*Master of Arts in Government.*—The applicants' undergraduate program must have included prerequisite courses, corresponding to undergraduate majors at this University, for the chosen field of graduate study.

*Master of Arts in Public Administration.*—An undergraduate major in a social science field appropriate to the chosen field of advanced work in public administration is required.

*Master of Arts in Personnel Administration.*—An undergraduate major in a social science or education, with the appropriate courses in psychology is required.

*Master of Business Administration.*—An acceptable undergraduate major in Business Administration or the equivalent is required. Applicants who are deficient in such course work may be admitted and will be required to make up deficiencies over and above the normal Master of Business Administration program.



*Doctor of Business Administration.*—A Master's degree in Business Administration or a related field, or the equivalent, and proficiency in Statistics and Accounting to the satisfaction of the Committee on Doctoral Studies are required.

#### THE COLLEGE OF GENERAL STUDIES

For information concerning the College of General Studies, see pages 169-71.

#### THE DIVISION OF UNIVERSITY STUDENTS

Students 21 years of age or over who are not interested in working for a degree in this University may be considered for admission to the Division of University Students to take courses for which they have adequate preparation, as evidenced by previous scholastic records.

In special instances, with the permission of the instructor, a person may be considered for admission as an auditor in a class without being required to take active part in the exercises or to pass examinations, but no credit will be allowed for such attendance.

#### THE DIVISION OF SPECIAL STUDENTS

This is a non degree-granting division of the University in which the Director of Admissions may authorize the placement of students in the process of making up entrance deficiencies to degree-granting colleges and schools of the University.

Complete credentials must be submitted and evaluated before a tentative or definite plan of make-up may be prepared.

#### THE DIVISION OF AIR SCIENCE

The applicant must be a regularly enrolled, full-time, male student; a citizen of the United States; between the ages of 14 and 25; physically qualified; of good character; and a candidate for a degree.

#### CLASSIFICATION OF STUDENTS

*Regular Students.*—Regular students are those who have met the entrance requirements for candidacy and are registered for degrees.

*University Students.*—Persons of mature age, as specified in the rules of the Division of University Students, may be admitted to this Division to pursue courses for which they have had adequate preparation.

*Special Students.*—Special students are those who are in the process of qualifying for admission to curricula in degree-granting colleges and schools of this University.

Additional information concerning curricula, courses offered, entrance requirements, or admission procedure may be obtained from the Office of the Director of Admissions.

## REGISTRATION

Before a student may be admitted to registration he must have satisfied the Office of the Director of Admissions that he is qualified for entrance to the University. (See "Admission", pages 12-20.)

A student who has previously matriculated in the University, but who has not been in attendance during the term prior to registration, should file an application for readmission in advance of registration.

Registration is for the term unless otherwise indicated on the registration paper. No registration is accepted for less than a term or one summer session.

A student may not register concurrently in The George Washington University and another institution without the permission of the dean of the college, school, or division in which he is registered in The George Washington University. Allowance of credit for work done concurrently will be at the discretion of the appropriate Committee on Admission and Advanced Standing.

### TIME AND PLACE OF REGISTRATION

Registration for all colleges, schools, and divisions except as noted below is conducted in Building C, 2029 G Street NW., during the following periods: *fall term*, September 24, 25, and 26; *spring term*, January 29 and 30.

For the Law School: Stockton Hall, 720 Twentieth Street NW.: *fall term*, September 24, 25, and 26; *spring term*, January 29 and 30.

For the School of Medicine: School of Medicine, 1335 H Street NW., between 9:00 a.m. and 4:00 p.m., September 11 and 12.

For the College of General Studies: at times and places designated in individual course announcements.

### REGISTRATION CHANGES AND WITHDRAWALS

For regulations governing changes in registrations and withdrawals, see pages 24, 39-40.

## FEES AND FINANCIAL REGULATIONS

By authorization of the Board of Trustees, the following fees have been adopted, effective September 1, 1952:

### TUITION FEES

For each credit hour for which the student registers (except work in the Law School and work taken by a candidate for a Doctor's degree)* .....	\$13.00
For each credit hour for which the student registers in the Law School .....	15.00
For the degree of Doctor of Medicine, for two terms†.....	750.00
For the degree of Doctor of Philosophy:	
For work leading to and including the Council Fellowship examination§ .....	400.00
For work leading to and including the final examination§.....	400.00
For the degree of Doctor of Education:	
For work leading to and including the general examination§.....	400.00
For work leading to and including the final examination§.....	400.00
For the degree of Doctor of Juridical Science:	
For work leading to and including the final examination§.....	400.00
For the degree of Doctor of Business Administration:	
For work leading to and including the general examination.....	400.00
For work leading to and including the final examination.....	400.00

### ADDITIONAL COURSE FEES

In certain courses additional fees, such as laboratory and material fees, are charged as indicated in the course descriptions. These fees are charged by the term and, unless otherwise indicated, may be defrayed in three payments when the tuition is paid in this manner. Breakage of apparatus is charged against the individual student. When breakage is in excess of the normal amount provided for in the laboratory fee the individual student will be required to pay such additional charges as are determined by the department concerned.

### GRADUATION FEES

Wherein the degree of Associate of Arts is granted.....	\$10.00
Wherein a degree other than the Associate in Arts degree is granted .....	20.00

FEE FOR BINDING MASTER'S THESIS..... 5.00

FEE FOR THE PROFESSIONAL THESIS IN THE SCHOOL OF ENGINEERING.... 75.00  
An annual fee; one half payable in advance at the time of each registration.

\* Payment of tuition for the thesis entitles the candidate, during the academic year of registration, to the advice and direction of the member of the faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year may be granted without further tuition payment. If the preparation of the thesis extends beyond the second academic year, it must be registered for again, and tuition paid on the same basis as for a repeated course.

† Registration in the School of Medicine is for a period of two terms. After the student has entered the course of instruction he is obligated for the full tuition for two terms. No part of the tuition will be refunded upon withdrawal or dismissal for any cause.

§ When a limited schedule is carried which extends the time of either the preparation period or the examination period to more than one year, the proportionate part of the charge may be fixed by the Comptroller.



FEE FOR PRINTING AND FILING SUMMARY OF DOCTORAL DISSERTATION . . . \$75.00

## SPECIAL FEES

Application fee, charged each applicant for admission (except applicants to the School of Medicine), non-refundable . . . . .	3.00
Application fee, charged each applicant for admission to the School of Medicine, non-refundable . . . . .	5.00
Scholastic-aptitude Test (when required for admission) . . . . .	3.00
Late-registration fee, charged each student who fails to register within the designated period . . . . .	5.00
Withdrawal fee, charged each student who preregisters and withdraws prior to the regular registration . . . . .	5.00
Service fee, charged each student for late payment of tuition (see "Payment of Fees") . . . . .	1.00
Reinstatement fee, charged each student who is reinstated after suspension for delinquency in fees . . . . .	5.00
Residence fee, charged each student wishing to maintain "in residence" status during any term of absence from the University or after completion of tuition requirements:	
In the Law School . . . . .	15.00
In all other colleges, schools, and divisions . . . . .	13.00
For special physical examination . . . . .	2.00
Student Bar Association fee, charged each student in the Law School for each term or any part thereof except the summer term . . . . .	2.50
Engineers' Council fee, charged each student in the School of Engineering for each term or any part thereof except the summer term . . . . .	1.50
For each examination to qualify for advanced standing and for each special examination . . . . .	5.00
Laboratory checkout fee, charged all students in chemistry and pharmacy courses who fail to check out of the laboratory by the time set by the instructor . . . . .	2.00
Transcript fee, charged for each transcript of record after the first . . .	1.00

Registration in the University entitles each student to the following University privileges: (1) the issuance of one certified transcript of record, if and when desired; (2) the services of the Placement Office; (3) the use of University library facilities, except as otherwise designated; (4) gymnasium privileges; (5) admission to all athletic contests, unless otherwise specified; (6) subscription to the *University Hatchet*, the student newspaper; (7) admission to University debates; (8) medical attention and hospital services as described under the Department of Health Administration. These privileges, however, with the exception of the issuance of transcripts, terminate, and a student is no longer in residence, when he withdraws or is dismissed from the University.

## PAYMENT OF FEES

All fees are payable at the Office of the Cashier, 725 Twenty-first Street NW. No student is permitted to complete registration or to attend classes until all fees are paid. Fees for each term are due and payable in advance at the time of registration.

In exceptional cases, subject to the approval of the comptroller, the student may sign a contract for term charges, except for fees payable in advance, permitting payments as follows:

*Fall Term.*—One third at the time of registration; one third on November 3; one third on December 3.

*Spring Term.*—One third at the time of registration; one third on March 3; one third on April 3.

A student who fails to meet payments when due, but who pays his fees on or before the fifteenth of the month in which payment is due, is charged a service fee of \$1. A student who fails to meet payments by the fifteenth of the month in which payment is due will be automatically suspended and may not attend classes until he has been officially reinstated and has paid all accrued fees and a reinstatement fee of \$5.

A student suspended for failure to meet payments when due may not be reinstated for the term after two weeks from the date of suspension. Applications for reinstatement are to be made to the Office of the Cashier.

An auditor pays all fees chargeable to the student registered for credit except the late-registration fee.

#### WITHDRAWALS AND REFUNDS

Application for withdrawal from the University or for change in class schedule must be made in person or in writing to the dean of the college, school, or division in which the student is registered. Notification to an instructor is not an acceptable notice (see "Withdrawal", pages 39 and 40).

In authorized withdrawals and changes in schedules, financial adjustments will be made as follows:

*Fall Term.*—Withdrawal dated on or before October 31, cancellation of two-thirds of tuition charges; withdrawal dated on or before November 30, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to November 30.

*Spring Term.*—Withdrawal dated on or before February 28, cancellation of two-thirds of tuition charges; withdrawal dated on or before March 31, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to March 31.

In no case will a refund be made of the first third of the total tuition charges unless the registration is in advance and the course is dropped before the regular registration day. In this case a withdrawal fee of \$5 is charged and tuition fees refunded. In no case will tuition be reduced or refunded because of nonattendance upon classes.

Payment applies only to the term for which a registration charge is incurred and in no case will this payment be credited to another term.

Any student in chemistry who fails to check out of the laboratory on or before the date set by the instructor, unless excused by the instructor, will be charged a checkout fee in the amount of \$2. A student who drops a course before the end of the term must check out of the laboratory at the next regular laboratory period.

Any student enrolled in the Air Force Officers' Training Corps who fails to turn in uniforms, equipment, and textbooks, on separation from the Corps, will be charged the value of the missing items.

Authorization to withdraw and certification for work done will not be given a student who has not a clear financial record.



## FELLOWSHIPS, SCHOLARSHIPS, PRIZES, FINANCIAL AID

### FELLOWSHIPS

The following fellowships are available to graduate students. Applications should be submitted for consideration not later than April 1 preceding the period for which the fellowship is to be awarded.

The applicant for a University Teaching Fellowship or a Special Fellowship is expected to be a prospective candidate for the degree of Doctor of Philosophy, and to have the Master of Arts degree, or the equivalent, in the general field of his future doctoral study and research. Forms on which to make application for these fellowships may be obtained from the Chairman of the Graduate Council.

*University Teaching Fellowships.*—These are assigned for the academic year in the following departments of instruction: Bacteriology, Biochemistry, Botany, Chemistry, Economics, English, History, Physics, Psychology, Romance Languages, and Statistics. Each fellow receives an annual stipend, plus full tuition in the Graduate Council for whatever schedule of study or research his fellowship duties permit him to carry. The occupant of each of these fellowships renders a designated unit of service to the department of instruction in his major field of doctoral study, usually in classroom or laboratory assignments.

*Special Fellowships.*—Special fellowships are supported by endowment, and are awarded to doctoral students of unusual promise and ability. The stipend is not fixed but varies in amount with the need of the individual receiving the award. In applying for one of these fellowships it is advantageous that the student appear personally for an interview with the Chairman and such other members of the Graduate Council as would be interested in the research investigations proposed. These fellowships include the following:

*Isabella Osborn King Research Fellowships.*—Two fellowships of the value of \$1,500 each, offered annually in the general field of biology, and intended to foster research for which the libraries and scientific establishments in Washington provide special facilities.

*Thomas Bradford Sanders Fellowships.*—Established in 1928 by Miss Addie Sanders in memory of her brother, Thomas Bradford Sanders, and offered in various academic fields of study, with stipends designated by the Chairman of the Graduate Council.

*Soroptimist Fellowship.*—This fellowship of \$750 was established in 1948 by the South Atlantic Region of the American Federation of Soroptimist Clubs, an international organization of executive business

and professional women. It is available to a woman who holds a baccalaureate degree and who wishes to undertake graduate work to prepare herself for professional service. Selection of the candidate will be based upon the personal and academic qualifications of the applicant. Application should be addressed to the Registrar of the University.

#### SCHOLARSHIPS

Scholarships are awarded for two terms unless otherwise specified and are credited in equal parts for each term. Each holder must carry a full schedule of academic work (fifteen credit hours or in the professional schools the full prescribed schedule) during the period for which the scholarship is awarded. Applicants\* must have established an academic record in courses at this institution, and should apply on prescribed forms which must be filed in the Office of the Chairman of the Committee on Student Loans and Scholarships not later than April 1 preceding the academic year for which the scholarship is to be awarded. Further information may be obtained from the Chairman of the Committee on Student Loans and Scholarships.

*Alpha Zeta Omega Scholarship.*—This scholarship in the amount of \$500, was established by Pi Chapter of Alpha Zeta Omega Pharmaceutical Fraternity. It is awarded annually to a member of the graduating class of one of the public high schools of the District of Columbia who intends to enroll in the Junior College Pharmacy Curriculum and to continue in the School of Pharmacy, completing the work leading to the degree of Bachelor of Science in Pharmacy.

*Alumni Scholarships.*—Five scholarships are available each year in the Junior College, upon the recommendation of regional alumni clubs, to outstanding male graduates of accredited high schools. The scholarships cover tuition costs for four terms (beginning with the fall term) of full-time work but do not include special fees such as laboratory charges, room, board, or other expenses. To retain the scholarship, the student must maintain a *B* average. Additional information may be obtained from the Executive Secretary of the General Alumni Association.

*Byron Andrews Scholarship.*—This scholarship, in the amount of \$150, established in 1920 by Mrs. Belle Fisk Andrews in memory of her husband, Byron Andrews, is available "for ambitious and needy students, who desire to pursue courses in English, Latin, journalism, history, literature, or political science".

*Anna Bartsch Scholarship.*—This scholarship, in the amount of \$500, established in 1946 by Dr. Anna Bartsch-Dunne, as a memorial to her mother, Anna Bartsch, is available to a woman in the School of Medi-

\* Except in the case of the Alpha Zeta Omega Scholarship, the Alumni Scholarships, the Daughters of the American Revolution Scholarship, the High School Scholarships, the Kappa Alpha Theta Scholarship, the Law School Scholarships, the Eugene and Agnes E. Meyer Scholarships, the National League of Masonic Clubs Scholarship, the John O. Rankin Scholarship, and the Student Activities Scholarships.



cine, "of outstanding scholarship, character, and promise, who intends to make the practice of medicine her life profession". The award is made upon the recommendation of the Faculty of the School of Medicine.

*Emma K. Carr Scholarships.*—Six scholarships in the amount of \$390 each and eight of \$100 each, established in 1932 by Mrs. Emma K. Carr, are available to "young men (of the white race) for undergraduate or postgraduate work, considering character, capacity, and need".

*Henry Harding Carter Scholarship.*—This scholarship, in the amount of \$400, established in 1896 by Mrs. Maria M. Carter in memory of her husband, Henry Harding Carter, is available to a deserving student who is preparing for the civil-engineering profession.

*Maria M. Carter Scholarship.*—This scholarship, in the amount of \$100, established in 1871 by Mrs. Maria M. Carter, is available to a young man.

*Daughters of the American Revolution Scholarship.*—This scholarship, in the amount of \$350, established in 1952 by the District of Columbia Daughters of the American Revolution, is available to descendants, preferably female, of patriots of the American Revolution.

*Isaac Davis Scholarship.*—This scholarship, in the amount of \$60, was established in 1869 by the Honorable Isaac Davis of Massachusetts. Nominations for the scholarship may be made "by the founder or his eldest lineal descendant". In case no such nomination is made, the scholarship is to be awarded by the University.

*Charles Worthington Dorsey Memorial Scholarship.*—This scholarship, established in 1947 as a memorial to Charles Worthington Dorsey, Bachelor of Laws, '81, Master of Laws, '82, is awarded upon the recommendation of the Faculty of the Law School to a needy and promising graduate of Columbian College or other division of the University, with a Bachelor of Arts or other equivalent degree, who has maintained an average of B as an undergraduate student and who desires to pursue the study of law as a full-time student. The scholarship covers tuition for the course leading to the first degree from the Law School, Bachelor of Laws or Juris Doctor, provided that the holder maintains an average of B. The right is reserved to suspend the benefits of the scholarship for cause at any time. The scholarship is awarded ordinarily once every three years.

*Robert Farnham Scholarship.*—This scholarship, in the amount of \$70, given to the University in 1871 by Mrs. Robert Farnham, is available to a student in Columbian College.

*Anna Spicker Hampel Scholarship.*—This scholarship, in the amount of \$25, established in 1949 by Mrs. Evelyn Hampel Young, is available for scholarship aid to young married women students in the School of Education or Columbian College.

*Elma Lewis Harvey Scholarship.*—This scholarship of \$100 was



founded in 1921 by Mrs. Emma Elizabeth Harvey in memory of her daughter, and is awarded every four years, or as often as vacant, to a young woman in Columbian College of the Protestant faith and the Caucasian race who shall be selected for scholarship and moral qualifications.

*Hazleton Scholarship.*—This scholarship, in the amount of \$200, established in 1950 by the bequest of Lillie S. Hazleton, is awarded annually "for the use and assistance of needy and worthy students".

*High School Scholarships.*—The Board of Trustees of the University offers the following scholarships for study in the liberal arts to graduates of public high schools of the District of Columbia and near-by Maryland and Virginia. District of Columbia: Anacostia, Coolidge, Eastern, McKinley, Roosevelt, Western, and Woodrow Wilson high schools—two scholarships each (The Amos Kendall Scholarship, established by the late Honorable Amos Kendall, is one of the two assigned to Western High School.); Montgomery County, Maryland—four scholarships; Prince Georges County, Maryland—four scholarships; Alexandria County, Virginia—two scholarships; Arlington County, Virginia—four scholarships. Scholarships are divided equally between men and women.

Each scholarship is awarded annually to a member of the graduating class who plans to enter the Junior College and continue in Columbian College, completing the work leading to a Bachelor's degree. A principal and an alternate may be recommended. The principal or, if the principal declines, the alternate must register the following September.

The holders of these scholarships are exempt from tuition fees, but are charged laboratory, graduation, and other fees. The scholarships are valid for eight terms of undergraduate study. Under the present accelerated program the scholarships may be used in the summer term.

To retain any high school scholarship, a student must carry a full program of study in the liberal arts (a full program being defined as at least fifteen hours of work each term). An average of *B* and a high standard of deportment must be maintained. Scholarships are reassigned annually. If the holder fails to continue its use during the academic year, the scholarship will not be reassigned.

*High School Discussion Conference Scholarships.*—Three scholarships are available each year in the Junior College to high school seniors who participate in the George Washington University High School Discussion Program. These scholarships cover tuition for one year, but do not include laboratory fees or other special fees. For information concerning application, consult the Department of Speech.

*Kappa Alpha Theta Scholarship.*—This scholarship, in the amount of \$500, established by the Washington alumnae of Kappa Alpha Theta, is available for the training of a clinician in speech correction.

*Law School Scholarships.*—Seven scholarships are available each year in the Law School to graduates of accredited colleges. Each scholarship

provides full three-years' tuition in the morning division of the Law School. Candidates must have graduated in the upper fifth of their class and must have demonstrated qualities of leadership in addition to scholastic attainment. To retain the scholarship, the successful candidate must maintain a *B* average. Application must be made before March 15 to the Dean of the Law School.

*Eugene and Agnes E. Meyer Scholarships.*—A scholarship fund, in the amount of \$2,500, established in 1952 by the Eugene and Agnes E. Meyer Foundation, is available annually "to assist promising students or applicants in meeting the costs of furthering their education, with preferential consideration to children of persons who are employed in public service, including service in the armed forces or the judiciary."

*A. Morehouse Scholarship.*—This scholarship was established by Mr. A. Morehouse in 1861. It carries an annual stipend of \$150, which is available for an undergraduate "intending to enter the Christian ministry".

*The National League of Masonic Clubs Scholarship.*—This four-year scholarship, in the amount of \$400 annually to be applied toward payment of tuition costs only, is offered by the National League of Masonic Clubs to the son or daughter of a Master Mason. To continue to hold the scholarship, the student must maintain a satisfactory academic record.

*Newspaper Scholarships.*—One scholarship is available each year to a candidate recommended by each of the following newspapers: *The Washington Daily News*, *The Washington Post*, *The Evening Star*, and *The Times-Herald*. The holder of the scholarship must be an employee of the newspaper. These scholarships cover tuition for four years, but do not include laboratory fees, graduation fees, or other special fees.

*Paul Pearson Scholarship.*—This scholarship, in the amount of \$200, established in 1940 by bequest of Paul Pearson and "to be known as the Dr. Paul Pearson award", is available to a student in the School of Pharmacy, upon the recommendation of the Faculty of that School.

*John O. Rankin Scholarship.*—This scholarship, established in October 1951 in recognition of Mr. Rankin's bequest to the University, is to be awarded to a resident of Pemiscot County, Missouri, upon the recommendation of the Rotary and Kiwanis Clubs of Caruthersville and Hayti, Missouri. The scholarship covers tuition costs for the four-year curriculum in Foreign Affairs, but it does not include laboratory fees, graduation fees, or other special fees. To retain the scholarship, the recipient must carry a full program and maintain an average of *B*. The scholarship is awarded every four years or as often as vacant. Further information may be obtained from the Office of the President of the University.

*Lula M. Shepard Scholarships.*—Two scholarships, in the amount of \$360 and \$240, respectively, established in 1946 by bequest of Lula M. Shepard, are available to "worthy Protestant students desiring to enter the Foreign Service Department of the School of Government".



*David Spencer Scholarship.*—This scholarship of \$150, established in 1918 by Miss Louisa J. Spencer, is available under certain restrictions.

*Mary Lowell Stone Scholarship.*—This memorial scholarship, in the amount of \$200, established in 1893, is available to a woman student of science in Columbian College.

*Student Activities Scholarships.*—The University has established a limited number of Activities Scholarships for men, which are awarded to approved applicants by the Faculty Committee on Student Loans and Scholarships upon the basis of (1) need, (2) good character, (3) demonstrated aptitude for leadership, and (4) scholarship.

Such scholarships are granted for one academic year. They may be continued, however, upon the basis on which they were granted. Recipients of Activities Scholarships must maintain the required scholastic average of the school or division in which they are registered.

The time for filing applications for Activities Scholarships and the terms of such scholarships may be ascertained by inquiry at the office of the Chairman of the Committee on Student Loans and Scholarships.

*Charles Clinton Swisher Scholarship.*—This scholarship, in the amount of \$390, established in 1941 by Professor Charles Clinton Swisher, is available to a student of medieval history.

*William Walker Scholarship.*—This scholarship, established in 1824 by William Walker, Esq., carries an annual stipend of \$250, which is available for an undergraduate intending to enter the Christian ministry.

*John Withington Scholarship.*—This scholarship of \$125 was established in 1830 by the New York Baptist Theological Seminary.

*Ellen Woodhull Scholarship.*—This scholarship of \$50, established by Ellen M. E. Woodhull, is available to a student in Columbian College.

*The Zonta Club of Washington, D. C., Scholarship.*—This scholarship, in the amount of \$300, offered by the Zonta Club of Washington, D. C., is available to a woman who is a senior or graduate student with special interest in a professional or business career.

#### THE COLUMBIAN WOMEN SCHOLARSHIP FUNDS

The Columbian Women Scholarships are awarded by the Scholarship Committee of the Columbian Women. Applications for these scholarships should be addressed to the Chairman of the Scholarship Committee, the Columbian Women, The George Washington University, Washington 6, D.C., not later than May 15 preceding the academic year for which the scholarship is to be awarded, or, in the case of award for the spring term, not later than January 1.

*Nellie Maynard Knapp Scholarship Fund.*—The income from this fund of \$5,000, established in 1915 in memory of a former president, Mrs. Martin A. Knapp, is available for scholarships for women.

*Founders of Columbian Women Scholarship Fund.*—The income from



this fund of \$5,000, established in 1920, is available for scholarships.

*Lillian Young Herron Scholarship Fund.*—The income from this fund of \$5,000, established in 1925 and named in 1930 in memory of a former president, is available for scholarships.

*Elizabeth V. Brown Scholarship Fund.*—This fund of \$1,200 was established in 1925 by the College Women's Club of Washington, D.C., in memory of the late Elizabeth V. Brown. The income is available for a scholarship for a woman student in the School of Education.

*College Women's Scholarship Fund.*—The income from this fund of \$500, established in 1926 by the College Women's Club of Washington, D.C., is available for scholarship aid.

*Lewes D. and Myrtie H. Wilson Memorial Scholarship Fund.*—This fund of \$1,000 was established by Miss Elizabeth Wilson in 1926 as a memorial to her parents, Lewes D. and Myrtie H. Wilson. The income is available for a scholarship in the School of Medicine.

*Grace Ross Chamberlin Scholarship Fund.*—The income from this fund of \$2,300, established in 1932 in honor of a former president, is available for scholarship aid.

#### PRIZES

*Alpha Chi Sigma Prizes.*—Alpha Pi Chapter of Alpha Chi Sigma Fraternity offers annually the following prizes:

A "Handbook on Chemistry and Physics" is awarded to each of the three students who carry at least eighteen credit hours during the freshman year and attain the highest averages in freshman chemistry.

The name and year of graduation of the student who has attained the highest quality-point index in courses in chemistry will be inscribed on a bronze plaque. The winner must have had at least sixteen hours of chemistry including the final term at The George Washington University.

*Alpha Delta Pi Prize.*—Alpha Pi Chapter of Alpha Delta Pi Fraternity offers an annual prize of \$10 to the woman member of the junior class with the most outstanding record in scholarship, extra-curricular activities, and service to the University.

*Alpha Kappa Psi Prize.*—Beta Mu Chapter of Alpha Kappa Psi Fraternity awards annually a key to the male student who has completed ninety credit hours at The George Washington University and has attained the highest average grade in economics, business administration, public accounting, public finance, and foreign commerce.

*Alpha Zeta Omega Prize.*—The Ladies' Auxiliary, Pi Chapter, of the Alpha Zeta Omega Pharmaceutical Fraternity offers annually a copy of *The United States Dispensatory* to the freshman student in pharmacy, who has completed at least fifteen hours in the University and who has attained the highest average in his courses.

*American Institute of Chemists Prize.*—The District of Columbia

Chapter of the American Institute of Chemists offers an annual prize of a medal and junior membership in the American Institute of Chemists to that graduating student, majoring in chemistry, who excels in scholarship and in the personal qualities of integrity and leadership.

*Byrne Thurtell Burns Memorial Prize.*—This prize of \$60 is awarded to the senior majoring in chemistry who shows the greatest proficiency in organic chemistry, as evidenced by a comprehensive examination, and who possesses such qualifications of mind, character, and personality as to give promise of future achievement.

*Martin L. Cannon Memorial Prize.*—Pi Chapter of the Alpha Zeta Omega Pharmaceutical Fraternity offers annually a copy of *The United States Dispensatory*, in memory of Dr. Martin L. Cannon, to the student in pharmacy receiving his Associate in Arts degree, who throughout his course has obtained the highest grades and at the same time contributed most to the student activities in the School of Pharmacy.

*Chi Omega Prize.*—Phi Alpha Chapter of Chi Omega Fraternity offers annually a prize of \$25 to be awarded to the woman student in the graduating class with the highest record in the following social sciences: economics, sociology, political science, and history; combined with general excellence.

*John Henry Cowles Prizes.*—These prizes, founded in 1943 by John H. Cowles, Grand Commander of the Supreme Council of the Thirty-third Degree (Mother Council of the World) of the Ancient and Accepted Scottish Rite of Freemasonry, Southern Jurisdiction of the United States of America, are awarded annually to the best two scholars in the senior class of the School of Government. The prizes are as follows: first prize, \$100; second prize, \$50.

*DeWitt Clinton Croissant Prize.*—This prize of \$50, established by the late Professor DeWitt Clinton Croissant, is awarded annually to the undergraduate student who as a member of one of the University courses in drama or as a participant in University dramatics submits to the English Department the best essay on drama or the theatre.

*E. K. Cutter Prize.*—The E. K. Cutter Prize in English was established by the late Marion Kendall Cutter "for excellence in the study of English." An annual prize of \$60 is awarded to the member of the graduating class whose record in English, combined with general excellence, shows most marked aptitude for and attainment in English studies.

*Daughters of the American Revolution Prize.*—This prize, established by the Daughters of the American Revolution of the District of Columbia, consists of \$15, which is awarded annually to the student who, having maintained a record of distinction in American history, submits the best essay upon a topic in the period of the American Revolution.

*Isaac Davis Prizes.*—These prizes, established by the Honorable Isaac Davis, of Massachusetts, in 1847, are awarded annually to such members



of the senior class as shall have made the greatest progress in public speaking during their connection with the University. The prizes are as follows: first prize, \$25; second prize, \$20; third prize, \$15.

The award of these three prizes is determined by a public-speaking contest in which the participants deliver original orations. Only members of the senior class who are candidates for the degree of Bachelor of Arts or Bachelor of Science are eligible to compete.

*Delta Zeta Prize.*—Delta Zeta Sorority offers annually a prize of \$10 to be awarded to the student maintaining the highest average in Zoology 1-2.

*Ellsworth Prize.*—The Ellsworth Prize of \$25, established by the late Mr. Fritz von Briesen, is awarded to the student doing the best work in the subject of Patent Law Practice.

*Elton Prize.*—The Elton Prize of \$20, established by the Reverend Romeo Elton, of Exeter, England, is awarded annually to the senior student having the highest average in the Greek language and literature.

*Jesse Frederick Essary Prize in Journalism.*—This memorial prize of \$100, established in 1948 by the late Helen Essary Murphy, is awarded annually to a student who has given promise of sound citizenship and ability in "forthright reporting" in student publication and/or under the jurisdiction of the Department of Journalism. The selection of the recipient will be made by a committee composed of the President of the University and two members of the Faculty.

*Joshua Evans III Prize in the Political and Social Sciences.*—This memorial prize of \$60, "established by friends because of an outstanding life", is awarded annually to that man in the graduating class of The George Washington University "who has demonstrated his signal ability in the social and political sciences and who has given promise of the interpretation of that ability in good citizenship among his fellows". The selection of the recipient will be made by the President of the University and a committee from the Faculty of the Division of the Social Sciences.

*Willie E. Fitch Prize.*—The Willie E. Fitch Prize of \$75, established in 1883 by James E. Fitch, in memory of his son, is awarded annually to a senior student for the best examination in chemistry.

*Alice Douglas Goddard Prize.*—This prize of \$75 was established in 1941 by Frederick Joseph Goddard of Georgetown, D.C., in memory of Alice Douglas Goddard, and is awarded annually to the upper division student making the highest average in American literature.

*Edward Carrington Goddard Prize.*—This prize of \$75 was established in 1923 by Mary Williamson Goddard, Alice Douglas Goddard, and Frederick Joseph Goddard, of Georgetown, D.C., in memory of Edward Carrington Goddard, class of '81, and is awarded to the junior or senior student making the highest average in the French language and literature.



*James Douglas Goddard Prize.*—This prize of \$75 was established in 1923 by Mary Williamson Goddard, Alice Douglas Goddard, and Frederick Joseph Goddard, of Georgetown, D.C., in memory of James Douglas Goddard, class of '01, and is awarded to the senior student making the highest average in pharmacy.

*Morgan Richardson Goddard Prize.*—This prize of \$75 was established in 1923 by Mary Williamson Goddard, Alice Douglas Goddard, and Frederick Joseph Goddard, of Georgetown, D.C., in memory of Morgan Richardson Goddard, and is awarded to the junior or senior student making the highest average in the following fields: economics, business administration, foreign commerce, and public accounting.

*Gardiner G. Hubbard Memorial Prize in United States History.*—This prize of \$60 was established by Mrs. Gertrude M. Hubbard in memory of her husband, the late Gardiner G. Hubbard, and is awarded annually to that member of the graduating class majoring in history who has maintained the highest standing in courses in United States history.

*Kappa Kappa Gamma Prize.*—Kappa Kappa Gamma Sorority offers annually a prize of \$10 to the full-time freshman who achieves the best record in Botany 1 and 2.

*John Bell Larner Prize.*—This prize, established by the bequest of John Bell Larner, consists of a medal which is awarded annually to that member of the graduating class in the Law School who attains the highest average grade in the entire course for the degree of Bachelor of Laws.

*Mortar Board Prize.*—This prize, consisting of a silver cup, is awarded annually to the woman student in the sophomore class having a scholarship average of B or higher and the most outstanding record in activities.

*Omicron Delta Kappa Prize.*—Alpha Delta Circle of Omicron Delta Kappa Fraternity offers annually a plaque to be awarded to "that member of the senior class who throughout his course has done the most constructive work in the furtherance and upbuilding of the University student activities".

*John Ordronaux Prizes.*—These prizes were established in 1909 by the bequest of John Ordronaux.

The amount of \$150 is awarded to the member of the graduating class in the School of Medicine who has the highest scholastic standing.

The amount of \$75 is awarded annually to the student in the Law School who has attained the highest average grade in the first year, full-time course; and \$75 to the student who has attained the highest average grade in the second-year, full-time course.

*Phi Eta Sigma Prize.*—The George Washington University Chapter of Phi Eta Sigma offers annually to the male student attaining the highest scholastic average in his first full term of work, a choice book

selected from the field of the recipient's major interest. The winner's name will be engraved on a plaque in the Office of the Dean of the Junior College.

*Phi Sigma Kappa Prize.*—Phi Sigma Kappa Fraternity offers annually a silver cup to the winner of an oratorical contest, open to all freshmen.

*Pi Beta Phi Prize.*—A prize of \$20 is awarded annually by the District of Columbia Alpha Chapter of Pi Beta Phi Fraternity to that woman member of the senior class who throughout her college course has done the most constructive work in the promotion of student activities among the women of the University.

*Psi Chi Prizes.*—The George Washington University Chapter of Psi Chi, national honorary society in psychology, offers annually two awards in the field of psychology: the first \$25 to the best undergraduate student in Experimental Psychology; the second, \$25 to the graduate student submitting the best Master's thesis in Psychology.

*Ruggles Prize.*—The Ruggles Prize of \$35, established by Professor William Ruggles in 1859, is awarded annually to a candidate for a baccalaureate degree for excellence in mathematics.

*Sigma Kappa Prize.*—Zeta Chapter of Sigma Kappa Sorority offers an annual prize of \$10 to the student with the highest grade in the final examination in General Chemistry.

*Sigma Tau Prize.*—Xi Chapter of Sigma Tau Fraternity offers annually a medal to be awarded to that member of the freshman class in the School of Engineering who maintains the highest scholastic standing in the work of the entire year.

*Staughton Prize.*—The Staughton Prize of \$20, established by the Reverend Romeo Elton, is awarded annually to the senior student making the best record in the Latin language and literature.

*James MacBride Sterrett, Jr., Prize.*—This prize, established in 1911 by Professor James MacBride Sterrett in memory of his son, consists of books awarded annually to that student who obtains the highest average in Physics 6, 7, and 8.

*Charles Clinton Swisher Historical Club Prize.*—This prize of \$75, established in 1936 by the Charles Clinton Swisher Historical Club and augmented in 1941 by the bequest of Professor Charles Clinton Swisher, is awarded annually to the student who submits the best essay covering some phase of medieval history.

*Theta Tau Activities Plaque.*—Gamma Beta Chapter of Theta Tau Fraternity offers annually a plaque to be awarded to that member of the senior class who has the most outstanding record in activities in the School of Engineering during the entire period of his attendance.

*Thomas F. Walsh Prize.*—This prize of \$100, established in 1901 by Thomas F. Walsh, is awarded annually to that student who submits the best essay in Irish history.



*Alexander Wilbourne Weddell Prize.*—This prize of \$300, established in 1923, by Mrs. Virginia Chase Weddell, is awarded annually to a candidate for a degree who writes the best essay on the subject of "the promotion of peace among the nations of the world". The prize essays shall become the property of the University and shall not be printed or published without the written consent of the University. The University reserves the right to withhold the award if no essay attaining the required degree of excellence is submitted.

#### FINANCIAL AID

##### INTERNSHIP

In memory of her mother, Anna Bartsch, Dr. Anna Bartsch-Dunne established in 1946 a fund to aid in the support of an internship. This aid, in the amount of \$15 a month, is awarded annually to a woman holding an internship in the University Hospital.

##### LOAN FUNDS

The following loan funds are available to students in the University in accordance with the qualifications placed thereon by the donors. Inquiries should be directed to the Office of the Comptroller.

*University Loan Fund.*—The Trustees of The George Washington University have established a loan fund of \$10,000.

*Home Economics Loan Fund.*—This fund of \$382.35, contributed by the D. C. Home Economics Association, is available for loans to senior girls majoring in Home Economics.

*Kellogg Medical School Loan Fund.*—The W. K. Kellogg Foundation in Battle Creek, Michigan, has established a fund of \$16,577.47 for loans to students in the School of Medicine.

*Harris Loan Fund.*—This fund of \$400, established by George W. Harris, is available for loan to an orthoptic technician student.

*Law Association Loan Fund.*—The George Washington Law Association has established a loan fund in the amount of \$786.10 for loans to students in the Law School.

*Henry Strong Educational Foundation.*—The Henry Strong Educational Foundation, established at Chicago under the will of General Henry Strong, makes available a fund for loans to both men and women students under the age of twenty-five years.

*Henry Strong—William A. Maury Loan Fund.*—This fund, also allocated from the funds of the Henry Strong Educational Foundation, is to be loaned to students under the age of twenty-five years in the George Washington University Law School.

*Sutherland Medical School Loan Fund.*—This fund, in the amount of \$1,200 and established by Mrs. Rose L. Sutherland, is available for loans to students in the School of Medicine.



## REGULATIONS

A student enrolled in the University is required to conform to the University regulations and to comply with the rules and regulations of the college, school, or division in which he is registered.

A student who withdraws or is suspended, or is otherwise absent from the University for one term or more, may re-enter and continue his work only under the rules and regulations in force at the time of his return.

If a student knowingly makes a false statement or conceals material information on an application for admission, registration card, or any other University document, his registration may be canceled and he will be ineligible (except by special action of the Faculty) for subsequent registration in any unit of the University.

### ATTENDANCE

A student is not permitted to attend classes until registration has been completed and fees due have been paid. Regular attendance is required. A student may be dropped from any course for undue absence.

A student who has been suspended, either for delinquency in payment of fees or for any other reason, is not permitted to attend classes during the period of suspension.

For further regulations regarding attendance, consult the announcements of the several colleges and schools.

### SCHOLARSHIP REQUIREMENTS

A student who fails to maintain the scholarship requirements of the college, school, or division in which he is registered may be dismissed from the University.

### GRADES

Grades are not given out by instructors but are mailed to the student through the office of the Registrar at the close of each term. Upon request, a copy of the student's grades will be forwarded to his parent or guardian.

The following grading system is used: excellent, *A*; good, *B*; average, *C*; passing, *D*; failing, *F*. Whenever a grade has not been assigned, the symbol *Inc.* (incomplete) or the symbol *W* (authorized withdrawal) will be recorded. The symbol *Inc.* is a sign temporarily to indicate that all the required work of the course has not been completed and a satisfactory explanation has been given to the instructor. An "incomplete" can not be made up after the lapse of one calendar year except by permission

of the Faculty. Courses from which a student has withdrawn by proper authorization will be indicated by the symbol *W*. No student may repeat for grade a course in which he has received a grade of *D* or above, unless required to do so by the department concerned.

For graduate work, grades are indicated as "satisfactory", "unsatisfactory", or "incomplete".

For the grading systems of the Law School and the School of Medicine, see the explanations in the announcements of those schools.

#### QUALITY-POINT INDEX

Quality points are computed from grades as follows: *A*, four points; *B*, three points; *C*, two points; *D*, one point, *F*, no points, for each credit hour for which the student has registered.

Scholarship is computed in terms of the quality-point index, obtained by dividing the number of quality points by the number of credit hours for which the student has registered, both based on the complete collegiate record. Courses marked *W* or *Inc.*, are not considered in determining the index, except that courses marked *Inc.* will be considered when a formal grade is recorded, or at the close of a calendar year, whichever occurs first. If an "incomplete" is not superseded by a proper grade within the allotted time, it is computed as zero quality points. Grades in courses taken at another institution are not considered in computing the quality-point index.

#### EXAMINATIONS

Examinations are scheduled in all courses at the end of each term or at the completion of the course.

A student guilty of dishonesty in examinations is subject to the regulations of the faculty under which he is registered.

For further regulations regarding examinations, consult the announcements of the several colleges, schools, and divisions.

#### WITHDRAWAL

Withdrawal from a course or from the University, *without academic or financial penalty*, requires the permission of the dean of the college, school, or division in which the student is registered. Permission to withdraw from the University will not be granted a student who has not a clear financial record. (See "Fees and Financial Regulations", pages 22-25.)

Withdrawal between October 31 and the end of the fall term and between February 28 and the end of the spring term is permitted only in exceptional cases.

*All charges for courses dropped without the approval of the dean must be met by the student. Reporting the dropping of a course to an instructor does not effect its discontinuance.*

A student may not withdraw from either the basic course (2 years) or the advanced course (2 years) of the Air Force Officers' Training Corps without the approval of the President of the University.

#### CHANGES IN PROGRAM OF STUDIES

A student may not change or drop (see "Withdrawals", above) courses or change his status to that of auditor except with the approval of the dean of the college, school, or division in which he is registered, upon presentation of adequate reasons for such changes.

Change from one section to another of the same course or from one major subject to another within the same college or school may be made with the approval of the dean. All requirements specified in the course of study to which the change is made must be satisfied before graduation.

Transfer from one college, school, or division to another may be made only with the approval of the deans concerned. Applications for such change should be made on the proper form, obtainable in the Office of the Director of Admissions, where it should be filed.

#### CREDIT

Credit toward a degree is given only after regular registration for and satisfactory completion of the required work of classes in the University, or upon the granting of advanced standing in accordance with the regulations of the several colleges, schools, and divisions.

On request the Registrar will issue to the student a balance sheet showing the amount of work completed and the amount necessary to complete the requirements for a degree.

In special instances, a person who has been admitted to the University may be registered, with the permission of the instructor, as an "auditor" in a class. An auditor is not required to take active part in the exercises or to pass examinations, but no academic credit will be allowed.

#### TRANSCRIPTS OF RECORD

Official transcripts of student records will be forwarded on request to other institutions. Unofficial copies of records will be issued to the student on request. No charge is made for the first transcript; a fee of one dollar is charged for each one thereafter. No certificate of work done will be issued for a student who does not have a clear financial record.

#### SUMMER SCHOOL CREDIT

A student who plans to attend summer school sessions at another institution with the intention of having credits so obtained apply toward graduation from this University must first secure the written approval of the dean of his college or school. In no event will such credits be recognized to an amount in excess of that which might be earned in a similar period in this institution.



## PHYSICAL EDUCATION REQUIREMENTS

Students in the Junior College and freshmen\* and sophomores in the School of Engineering are required to take Physical Education 1-2 and 11-12 unless they are registered for less than 9 credit hours or unless regular employment during the day makes it necessary to take all classes during the evening hours.

Any other exemptions will be granted only upon written petition which has been recommended by the physical education department concerned and approved by the dean of the college or school in which the student is registered.

A student entering the University with advanced standing is not exempt from the physical education requirements unless he has satisfactorily met the requirements elsewhere. Courses in military training are not accepted in satisfaction of these requirements.

The required medical and physical examinations, as specified by the departments of physical education, will be arranged at the time of registration.

## GRADUATION REQUIREMENTS

To be recommended for graduation a student must have met the admission requirements of the college or school in which he is registered, completed satisfactorily the scholarship, curriculum, residence, and other requirements for the degree for which he is registered, and be free from all indebtedness to the University.

*Application for Graduation.*—Application for a degree should be filed in the Office of the Registrar at the time of registration for the last term of the senior or final year.

*Scholarship.*—In all undergraduate divisions of the University the scholarship requirement for graduation is a quality-point index of at least 2.00.

The graduate student must meet the scholarship requirements for the particular degree for which he is registered.

*Curriculum.*—Curriculum requirements for each degree are stated under the college or school offering work in preparation for the degree.

*Residence.*—Unless otherwise specified, in all undergraduate divisions of the University, a minimum of one year, or thirty credit hours, including at least twelve credit hours in the major field, must be completed in residence. Summer term work may be counted in residence, but in no case may the period of residence aggregate less than thirty weeks. Unless special permission is granted by the dean of the college or school concerned to pursue work elsewhere, the work of the senior or final year must be completed in residence.

\* Freshmen in the School of Engineering enrolled in the Air Force ROTC substitute Air Science 1-2 for Physical Education 1-2.

The graduate student must meet the residence requirements for the particular degree for which he is registered.

With the permission of the dean of the college, school, or division concerned, a student may be granted leave of absence; such student should, however, remain technically in residence by paying the residence fee for each term he is absent. For the purpose of this regulation, the summer sessions will not be considered a term.

*Attendance and Conduct.*—The University reserves the right to refuse to confer a degree upon a candidate whose attendance or conduct has been unsatisfactory.

*Thesis or Dissertation.*—A thesis or dissertation submitted in partial satisfaction of requirements for the Master's degrees, the professional degrees in engineering, the degree of Doctor of Education, the degree of Doctor of Juridical Science, the degree of Doctor of Business Administration, or the degree of Doctor of Philosophy must be presented in its final form to the dean of the college or school concerned not later than the date specified in the University calendar. Three\* copies of each thesis or dissertation are required, one typewritten original and two legible and complete carbon copies. Detailed instructions for the styling of all theses and dissertations should be obtained from the appropriate dean.

Accepted theses or dissertations, with accompanying drawings, become the property of the University and are deposited in the University Library, where the duplicate copies are bound and made available for circulation. Permission to publish or adapt material in the thesis or dissertation must be secured from the appropriate dean.

*Presence at Graduation.*—A candidate is required to be present at the graduation exercises unless written application for graduation in absentia is approved by the dean of his college or school.

#### HONORS

*With distinction.*—In all undergraduate divisions of the University the degree may be conferred "with distinction", at the discretion of the Faculty, if a student attains a quality-point index of 3.50 or higher on all work taken at this institution except that taken during the term immediately preceding the granting of the degree. To be eligible for this honor a student must have completed at this institution at least one-half of the work required for the degree.

In the School of Medicine and the Law School, degrees may be conferred "with distinction", at the discretion of the Faculty, on those students who attain an average of *A* on all work taken for the degrees.

*Special honors.*—Special honors may be awarded by the Faculty to any member of the graduating class for outstanding achievement in the

\* In the School of Education, four copies.



student's major field of work on recommendation of the major department, under the following regulations:

1. The student must have his candidacy for special honors approved by the faculty members representing the major department or field not later than the beginning of the senior year.

2. The student must meet such other conditions as may be set at the time his candidacy is approved.

3. No student will be awarded special honors unless he has a quality-point index of at least 3.00 on all work taken at this institution except that taken during the term immediately preceding the granting of the degree.

4. To be eligible for honors a student must have completed at this institution at least one-half of the work required for the degree prior to the beginning of the term immediately preceding the granting of the degree.

*Military honors*—An Air Force Officers' Training Corps cadet may be designated a "Distinguished Military Student" if he (1) has completed or been credited with the basic course in the Air Force program or if he is within fifteen days of completing the advance course; (2) is academically in the first third of his specialized option and in the upper half of all students pursuing the same major and scheduled to graduate in the same academic year; (3) possesses outstanding qualities of military leadership, high moral character, and definite aptitude for the military service; and (4) has distinguished himself by demonstrated leadership through his accomplishments while participating in recognized campus activities.

An Air Force Reserve Officers' Training Corps cadet may be designated a "Distinguished Military Graduate" if he has (1) completed the advance course in the Air Force program; (2) been designated a Distinguished Military Student and maintained the standard for such designation from the time it was conferred until graduation; and (3) fulfilled the requirements for graduation from the University.

#### THE LIBRARY

A student registered in the University is entitled to the reference use of the University Library. The University Membership Card, issued upon the payment of fees, must be presented as identification.

Library books, with the exception of those in the Law and Medical collections, may be drawn for home use for a period of two weeks. Any book which does circulate is subject to recall by the Librarian at any time. Reserve books and periodicals for collateral reading must be used in the reading rooms when the Library is open. With special permission they may be drawn for overnight use when the Library closes. A fine of twenty-five cents will be charged for the first hour or fraction of an



hour and five cents for each hour or fraction thereafter that a reserve book is overdue. Grades of a student will be withheld until his library record is clear.

#### HOURS

The University Library is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday.

The Law Library is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday, 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday.

The Medical Library is open from 9:00 A.M. to 9:00 P.M. each class day (Saturday, 9:00 A.M. to 1:00 P.M.).

#### RIGHT TO DISMISS STUDENTS

The right is reserved by the University to dismiss or exclude any student from the University, or from any class or classes, whenever, in the interest of the student or the University, the University Administration deems it advisable to do so.

#### RIGHT TO CHANGE RULES

The University and its various colleges, schools, and divisions reserve the right to modify or change requirements, rules, and fees. Such regulations shall go into force whenever the proper authorities may determine.

#### PROPERTY RESPONSIBILITY

The University is not responsible for the loss of personal property in any University building.

THE COLLEGES, SCHOOLS, AND DIVISIONS





## THE JUNIOR COLLEGE

### THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Myron Law Koenig, Ph.D., *Dean of the Junior College*  
William Lewis Turner, A.M., *Assistant Dean of the Junior College*  
George Martin Koehl, A.M., *Assistant Dean in the Junior College*  
Carr Bartleson Lavell, A.M., *Assistant Dean in the Junior College*

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Thomas Benjamin Brown, Ph.D., *Professor of Physics*  
Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*  
Norris Ingersoll Crandall, M.Arch., *Professor of Art*  
Edward Henry Sehrt, Ph.D., *Professor of German*  
Walter Lynn Cheney, Ph.D., *Professor of Physics*  
Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*  
Donnell Brooks Young, Ph.D., *Professor of Zoology*  
Warren Reed West, Ph.D., *Professor of Political Science*  
Ruth Harriet Atwell, A.M., *Professor of Physical Education for Women*  
Francis Edgar Johnston, Ph.D., *Professor of Mathematics*  
Benjamin Douglass Van Evera, Ph.D., *Professor of Chemistry*  
†Merle Irving Protzman, Ph.D., *Professor of Romance Languages*  
Ralph Dale Kennedy, Ph.D., *Professor of Accounting*  
Florence Marie Mears, Ph.D., *Professor of Mathematics*  
Wood Gray, Ph.D., *Professor of American History*  
Thelma Hunt, Ph.D., M.D., *Professor of Psychology*  
Ira Bowers Hansen, Ph.D., *Professor of Zoology*  
Paul William Bowman, Ph.D., *Professor of Biology*  
Lawson Edwin Yocum, Ph.D., *Professor of Botany*  
Arthur Edward Burns, Ph.D., *Professor of Economics*  
John Withrow Brewer, Ph.D., *Professor of International Law*  
Frances Kirkpatrick, A.M., *Professor of Home Economics*  
Louis Clark Keating, Ph.D., *Professor of Romance Languages*  
William Henry Myers, A.M., *Professor of Physical Education for Men*  
Harold Loran Geisert, Ph.D., *Professor of Sociology*  
Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*  
Charles Rudolph Naeser, Ph.D., *Professor of Chemistry*

• The President of the University, the Dean and Assistant Deans (Junior College), the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, Assistant Professors, and Instructors constitute the Faculty.

† On sabbatical leave 1952-53.

Howard Maxwell Merriman, Ph.D., *Professor of American Diplomatic History*

\*Ernest Sewall Shepard, A.M., *Professor of English Literature*

Charles Watson Bliven, M.S., *Professor of Pharmacy*

Alan Thomas Deibert, A.M., *Professor of Romance Languages*

Donald Stevenson Watson, Ph.D., *Professor of Economics*

Myron Law Koenig, Ph.D., *Professor of American History*

Calvin Darlington Linton, Ph.D., *Professor of English Literature*

Charles Edward Gauss, Mus.B., Ph.D., *Elton Professor of Philosophy*

Elbridge Colby, Ph.D., *Professor of Journalism*

Donald Chenoweth Kline, B.Arch., M.F.A., *Professor of Art*

Helen Bennett Lawrence, A.M., *Professor of Physical Education for Women*

Charles William Cole, Ph.D., *Professor of American Literature*

George Martin Koehl, A.M., *Professor of Physics*

John Francis Latimer, Ph.D., *Associate Professor of Classical Languages and Literatures*

Irene Cornwell, Ph.D., *Associate Professor of French*

Kathryn Mildred Towne, A.M., *Associate Professor of Home Economics*

Antonio Alonso, A.M., *Associate Professor of Spanish*

Gretchen Louisa Rogers, Ph.D., *Associate Professor of German*

Wolfram Karl Legner, Ph.D., *Associate Professor of German*

Joseph Henry Krupa, M.S., *Associate Professor of Physical Education for Men*

Elizabeth Burtner, A.M., *Associate Professor of Physical Education for Women*

Lubin Poe Leggette, A.M., *Associate Professor of Speech*

Robert Dale Campbell, Ph.D., *Associate Professor of Geography*

Lawrence Daniel Folkemer, Ph.D., *Associate Professor of Religion*

Robert Randal Meijer, Ph.D., *Associate Professor of Physics*

Robert Corbin Vincent, Ph.D., *Associate Professor of Chemistry*

William Lewis Turner, A.M., *Associate Professor of English*

Averett Howard, A.M., *Associate Professor of English Composition*

Curtis Edward Tuthill, Ph.D., *Associate Professor of Psychology*

Roderic Hollett Davison, Ph.D., *Associate Professor of European History*

†George Francis Henigan, Jr., Ph.M., *Associate Professor of Speech*

Robert Hamilton Moore, Ph.D., *Associate Professor of English Composition*

Edith Elizabeth Mortensen, Ph.D., *Associate Professor of Zoology*

Calvin Weir Petit, Ph.M., *Associate Professor of Speech*

Edwin Lockwood Stevens, A.M., *Associate Professor of Speech*

\* On sabbatical leave spring term 1952-53.

† On sabbatical leave 1952-53.

Reuben Esselstyn Wood, Ph.D., *Associate Professor of Chemistry*  
 Muriel Hope McClanahan, Ph.D., *Associate Professor of English Composition*

Nels David Nelson, Ph.D., *Associate Professor of Mathematics*  
 James Harold Coberly, Ph.D., *Associate Professor of American Literature*

Carr Bartleson Lavell, A.M., *Associate Professor of Sociology*  
 William Frederick Sager, Ph.D., *Associate Professor of Chemistry*  
 John Edward Cantlon, Ph.D., *Associate Professor of Botany*  
 Raymond George Hanken, B.S. in P.E., *Assistant Professor of Physical Education for Men*

Sam Clark Munson, M.S., *Assistant Professor of Biology*  
 Martin Steele Day, Ph.D., *Assistant Professor of English*  
 Willard Edmund Caldwell, Ph.D., *Assistant Professor of Psychology*  
 Phyllis Nichols Rowe, A.M., *Assistant Professor of English*  
 Vera Lillian Mowry, Ph.D., *Assistant Professor of English*  
 Ronald Bettes Thompson, A.B., *Assistant Professor of European History*  
 Rafael Supervía, Doctor en Derecho, *Assistant Professor of Spanish*  
 James Willard Harkness, B.S., Ed.M., *Assistant Professor of Chemistry*  
 John Gage Allee, Jr., A.M., *Assistant Professor of English*  
 Bernard Hayman Fox, Ph.D., *Assistant Professor of Psychology*  
 Gilbert Pierce Haight, Jr., Ph.D., *Assistant Professor of Chemistry*  
 Richard Catlin Haskett, Ph.D., *Assistant Professor of American History*  
 James Willis Robb, A.M., *Assistant Professor of Romance Languages*  
 \*Ruth Elsie Jones, A.M., *Assistant Professor of English Composition*  
 Mary Carman Rose, Ph.D., *Assistant Professor of Philosophy*  
 Edith Shores Surrey, A.M., *Assistant Professor of Speech*  
 William Adriance Withington, A.M., *Assistant Professor of Geography*  
 Lee Sheward Bielski, A.M., *Assistant Professor of Speech*  
 William Graham Clubb, A.M., *Assistant Professor of French*  
 Mildred Hollander Shott, A.M., *Assistant Professor of Secretarial Studies*

Earl Larkin Williams, A.M., *Lecturer in Mathematics*  
 Theodore Peter Perros, M.S., *Instructor in Chemistry*  
 †Jonathan Dayton Stoddart, A.M., *Instructor in Political Science*  
 Frederick Charles Kurtz, M.B.A., *Instructor in Accounting*  
 Gordon Edward Bell, M.B.A., *Instructor in Accounting*  
 ‡William Franklin Heckert, M.S., *Instructor in Physics*  
 Nancy Carolyn Rupp, B.S., *Instructor in Physical Education for Women*  
 Wilson Emerson Schmidt, A.M., *Instructor in Economics*  
 Curtis Drake Cecil, Jr., A.B., *Instructor in English Composition*

\* On leave of absence 1952-53.

‡ On national service leave.



Raymond Howard Reno, A.M., *Instructor in English Composition*  
 William Ashley Tanner, B.S., *Instructor in Physics*

## COMMITTEES •

## THE DEAN'S COUNCIL ‡

1953

Howard Maxwell Merriman  
 Elbridge Colby

1954

Roderic Hollett Davison  
 Lawrence Daniel Folkemer

1955

Florence Marie Mears  
 Gilbert Pierce Haight

## COMMITTEE ON ADMISSION AND ADVANCED STANDING

George Martin Koehl, *Chairman*  
 Carr Bartleson Lavell, *Vice-Chairman*  
 Donnell Brooks Young      Alan Thomas Deibert  
    Edwin Lockwood Stevens

## COMMITTEE ON SCHOLARSHIP

William Lewis Turner, *Chairman*  
 Carr Bartleson Lavell, *Vice-Chairman*  
 Kathryn Mildred Towne      Wolfram Karl Legner  
 Raymond George Hanken      Martin Steele Day  
 Gilbert Pierce Haight      Mary Carman Rose  
    George Martin Koehl

## JUNIOR COLLEGE ADVISORY COMMITTEE

Dean of the Junior College, *Chairman*  
 Assistant Dean of the Junior College, *Vice-Chairman*  
 Samuel Nathaniel Wrenn      George Martin Koehl  
    Carr Bartleson Lavell

\* The President of the University and the Dean of the Junior College are members *ex officio* of all committees.

‡ Elected by the Faculty.

## GENERAL INFORMATION

### INTRODUCTORY

The Junior College, which comprises the first two years of the standard four-year college program in the liberal arts and sciences, was established in 1930, as a part of the academic reorganization of the University. Prior to 1930, the four-year program had been administered by Columbian College since its organization in 1821.

The Junior College curricula continue the studies of a general cultural nature begun in the secondary schools, and lay a foundation for the more specialized work which is to follow. Emphasis is accordingly laid (1) upon the social, cultural, biological, and physical background of civilization (history, political science, physical and biological sciences, literature, etc.) and (2) upon the discipline necessary to the effective prosecution of more advanced work (English rhetoric and composition, foreign languages, mathematics, etc.).

The Junior College also provides the pre-professional work required for admission to the schools of Pharmacy, Education, and Government, and the first two years of the pre-professional work required by the schools of Medicine and Law.

In addition it provides two-year curricula in vocational training.

### ADVISORY SYSTEM

In order that students may have opportunities for assistance in planning their courses and also for obtaining personal, educational, and vocational advice in every phase of their academic work during the first two years, a number of members of the Faculty serve as advisers to Junior College students.

Members of the Faculty, selected for their knowledge of Junior College requirements and student programs, advise students in making up their programs of study for each term. A separate staff of experienced advisers under the chairmanship of the Dean assists those students who find it difficult to make adjustments to college life because of scholastic or other reasons. Students who are "warned" or who are on probation may be required to consult these advisers at regular intervals. Students are encouraged to consult any member of the Advisory Staff or their instructors about college problems at any time.

Copies of notices of "warning" or probation will be sent to the parents or guardians of students on request, and the Dean and members of the Advisory Staff are available for consultation with parents or guardians concerning student problems.

## REGULATIONS

*Students in the Junior College are subject to, and are expected to familiarize themselves with, the regulations regarding ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 12-25, and the University regulations stated on pages 38-44.*

## SCHOLASTIC-APTITUDE TESTS

Students admitted to the Junior College may be required to take the scholastic-aptitude tests of the University.

## REQUIRED PLACEMENT EXAMINATIONS

*English.*—Special placement examinations, required of all entering freshmen, will be conducted by the English Department. Before students are registered in English 1, they are tested in the minimum essentials of vocabulary, spelling, grammar, standard usage, and writing skill. Those students who show marked superiority may, upon passing further tests, be exempted from one or both terms of the Freshman English course; those who are inadequately prepared for English 1 will be assigned to English A.

*Romance Languages.*—A standardized placement examination will be required of all entering students who wish to continue in college the language begun in high school. Upon completion of the examination assignment will be made to the appropriate course with credit to be assigned on the usual basis. This does not apply to students whose previous experience in a given language is equivalent to two college years.

*The Use of Correct English.*—The use of correct English, oral or written, is required not only in English but also in all other courses (see page 73).

## FIRST- AND SECOND-GROUP COURSES

A Junior College student may not take second-group courses (courses numbered 101-200) without the written permission of the instructor and of the Dean of the Junior College. A student will not be permitted to postpone a first-group course required under the curriculum for which he is registered in order to take a second-group course for elective credit. The principle that first-group courses must be taken in the Junior College years, and advanced courses in Columbian College and the professional schools, will be rigidly adhered to in approving student programs. No student on probation is permitted to take second-group courses except by the express permission of the Committee on Scholarship.



#### AMOUNT OF WORK

Fifteen or sixteen credit hours, not including required physical education, constitute normal work. A student not on probation may be permitted by the Dean to take seventeen credit hours.

A student having a quality-point index of 3.50 may, with the permission of the Dean, take eighteen or nineteen credit hours. No student may take more than nineteen credit hours, except with the permission of the Committee on Scholarship.

For an employed student working more than twenty-four hours a week, nine credit hours, not including required physical education, constitute normal work. An employed student not on probation may be permitted by the Dean to take ten credit hours. An employed student having a quality-point index of 3.50 may be permitted by the Dean to take twelve or thirteen credit hours.

A student previously unemployed who accepts employment subsequent to registration or at any time during a term is required to report that fact immediately to the Dean, to bring his program within the limitations set by the Faculty for the amount of work to be carried by an employed student.

#### ATTENDANCE

The student is held responsible to the instructor in charge of the course for which he is registered for all the work of the course, and all absences must be excused before provision will be made for him to make up the work missed.

With the exceptions noted below, occasional absences, not to exceed in number for each term the credit hours for the term, will be automatically excused. (If a course has distinct divisions such as lectures, laboratories, recitations, etc., these excuses apply pro rata to such separate divisions.) In the application of this rule absences immediately preceding or following holiday periods are to be counted double.

Such automatic excuses are intended to cover the occasional minor exigencies and not to constitute an indiscriminate privilege. A student on probation is allowed no automatic excuses.

Excuses for absences from two or more consecutive class periods, and for absences from examinations which have been announced in advance, can be obtained only by making written application to the instructor in charge of the course.

A student whose absences from any class, whether excused or unexcused, are in excess of one-fourth of the total number of class periods will receive the grade of F for the course, except by special ruling of the Dean on recommendation of the instructor in the course.

## CLASSIFICATION OF STUDENTS

A student who has satisfactorily completed at least thirty-two credit hours of work, including eighteen credit hours in his curriculum requirements, is classed as a *sophomore*.

## THE DEGREE OF ASSOCIATE IN ARTS

Upon the satisfactory completion of the requirements of the Junior College, the degree of Associate in Arts is conferred.

## REQUIREMENTS FOR THE DEGREE

## SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 38 and 39.

In order to receive the degree of Associate in Arts a student must have a quality-point index of at least 2.00

*Honor Roll.*—The name of every student who has a quality-point index of 3.50 or higher will be placed on the honor roll and published. No consideration is given to those who have completed a total of less than fifteen credit hours. A place on the honor roll does not necessarily mean that the student will receive honors upon graduation.

*Probation.*—A student must maintain a quality-point index of at least 2.00 or be placed on probation.

A student remains on probation as long as his quality-point index is below 2.00; however, the student who has a quality-point index between 1.50 and 2.00 will be considered by the Committee on Scholarship, which may retain him on probation or suspend him.

*Suspension.*—A student who has a quality-point index below 1.50 will be suspended; however, a student who has a quality-point index between 1.40 and 1.50 will be considered by the Committee on Scholarship, which may retain him on probation or suspend him.

A student who is subject to probation for the third time, whether successive or after an interval, will be suspended.

For the purpose of these rules, the work taken in the summer sessions is considered one term.

A student suspended for poor scholarship may apply for readmission after an interval of two terms. On application for readmission the student must submit specific evidence to the Committee on Scholarship that he is better qualified to pursue college work. A student suspended twice for poor scholarship will not be readmitted.

The foregoing scholarship rules are applied when a student has under-

taken a minimum of twelve hours. Thereafter, the rules are applied in multiples of nine hours.

*Warnings.*—At stated intervals during the academic year instructors file in the Office of the Junior College the names of those students who are doing work of *D* grade or lower. A "warning" will then be sent to the student and a copy of the warning filed with the appropriate adviser. A "warning" constitutes notice to the student that he must consult his instructor and adviser at the earliest opportunity. "Warning periods" are established between the 7th and 8th weeks of the fall and spring terms.

#### CURRICULUM REQUIREMENTS

The satisfactory completion of sixty credit hours of college work, exclusive of physical education, is required as outlined in one of the Junior College curricula described below.

Except for students registered for the combined degrees of Bachelor of Arts and Doctor of Medicine, not more than twelve credit hours of professional courses may be included in the one hundred and twenty credit hours required for the Bachelor's degrees in Columbian College. Junior College students electing professional courses under this rule must obtain the approval of the Dean of the Junior College.

*Physical Education Requirements.*—Physical education is required of all students in the freshman and sophomore years. (See "Physical Education Requirements", page 41.)

*Foreign Language Requirements.*—For the degree of Associate in Arts a student must have completed satisfactorily the equivalent of two years of college work in a single foreign language except in the pre-pharmacy and pre-physical education curricula and the terminal curricula in Secretarial Studies and Accounting. (See "Placement Examination", page 52.)

A student offering for admission four acceptable high school units of a single foreign language, or the equivalent, is not required to take any foreign language. If he offers three units, he must complete the second term of the second-year college course in the same language. If he offers two units, he must complete the entire second-year college course in the same language. If he offers one unit, he must complete the second term of the first-year college course and the entire second-year course in the same language.

In some instances foreign languages are required or recommended as a preparation for advanced work in Columbian College and the professional schools. The student should consult his adviser as to these requirements, so that appropriate foreign languages may be included, when necessary, in his Junior College program.



### Curricula for Admission to Columbian College and the Professional Schools

Each of the following curricula comprises the first two years of a standard four-year college course and prepares the student for upper division work. Requirements for graduation from the Junior College may not be the same as the requirements for admission to Columbian College or a professional school. Therefore, the student should consult the specific admission requirements of the college or school for which he is preparing.

The first sixty credit hours of the ninety required for admission to the School of Medicine are undertaken in the Junior College. Each pre-medical program must be approved by the premedical adviser. For specific requirements, see "Admissions", pages 12-20.

#### COLUMBIAN COLLEGE:

##### 1. ARTS AND LETTERS\*

The following two-year curriculum prepares for the Bachelor of Arts program in Columbian College:

	Credit Hours
English ..... English 1-2 .....	6
..... English 51-52, 71-72, 91-92, Art 11-12, 71-72, ..... Classical Languages 71-72, or Philosophy 51-52	6
Foreign Language ... See page 55 for foreign language requirement...	12
Social Studies ..... Economics 1-2, History 39-40, 71-72, Political ..... Science 9-10, or Sociology 1-2.....	6
Science ..... Biology 1-2, Botany 1-2, Chemistry 3-4, 11-12, ..... Physics 5, 7 (6, 7), (5, 6), or Zoology 1-2...6 or 8	
Physical Education .. See page 41 for statement of requirement.	
Elective† .....	22 to 24
Total.....	60 or 62

##### 2. SCIENCE\*

The following two-year curriculum prepares for the Bachelor of Science curriculum in Columbian College.

	Credit Hours
English ..... English 1-2 .....	6
..... English 51-52, 71-72, 91-92, Art 11-12, 71-72, ..... Classical Languages 71-72, or Philosophy 51-52 ..... (Elective if 6 hours of Social Studies are ..... taken—see below) .....	6

\* Students who have had high school courses in chemistry, mathematics, and physics should consult the description of the beginning courses in these fields. For the degree of Bachelor of Science, the student should obtain the advice of the major departments as to proper prerequisite and collateral courses for the intended major.

† Credit is not given for courses elected in Physical Education or Secretarial Studies.

Credit  
Hours

Foreign Language ... French or German or non-science elective.....	12
NOTE.—A reading knowledge of French or German is required. This may be satisfied by French 4 or German 4 or by special examination.	
Mathematics ..... Mathematics 3, 6, or electives.....	6
NOTE.—The Mathematics 3 requirement may be satisfied by offering two years of high school algebra acceptable for admission; the Mathematics 6 requirement may be satisfied by offering one-half year of high school trigonometry acceptable for admission.	
Social Studies ..... Economics 1-2, History 39-40, 71-72, Political Science 9-10, or Sociology 1-2 (Elective if 6 hours in the English, Art, Classical Languages, Philosophy group are taken—see above)	6
Science .....	(a) Biology 1-2, Botany 1-2, Zoology 1-2 (b) Chemistry 11-12, Physics 5, 7 (6, 7) (5, 6) ..... 18 to 22
(In satisfying this requirement, at least one year-course must be taken in both groups (a) and (b).)	
Physical Education .. See page 41 for statement of requirement.	
Elective* .....	2 to 12
Total.....	60 to 64

## SCHOOL OF PHARMACY:

The following two-year curriculum prepares for the Bachelor of Science in Pharmacy curriculum in the School of Pharmacy:

English .....	English 1-2 .....	6
Science .....	Botany 1 or 2, Chemistry 11-12, Physics 5-6, Zoology 1 (Freshman year).....	21
	Chemistry 21-22 (Sophomore year).....	8
Social Studies .....	Economics 1 .....	3
Professional Courses ..	Pharmacy 1-2 (Freshman year).....	3
	Pharmacy 21-22, 23, 25 (Sophomore year).....	14
Physical Education .. See page 41 for statement of requirement.		
Elective .....		14
Total .....		69

\* Credit is not given for courses elected in Physical Education or Secretarial Studies.

**SCHOOL OF EDUCATION:****1. EDUCATION**

The following two-year curriculum prepares for the Bachelor of Arts in Education curriculum in the School of Education:

	Credit Hours
English .....	English 1-2 ..... 6
	English 51-52, 71-72, or 91-92 ..... 6
Foreign Language ...	(French, German, Latin, or Spanish). See page 55 for foreign language requirement. .... 12
Social Studies .....	History 71-72 ..... 6
	Economics 1-2; Geography 71-72; History 39-40; Political Science 9-10; or Sociology 1-2. (Those offering for admission two or more acceptable senior high school units in the Social Studies may be exempted from this requirement) ..... 6
Science and Mathematics.....	Two terms to supplement senior high school courses, selected from: Biology 1-2; Botany 1-2; Chemistry 3-4, 11-12; Physics 5 and 6 or 7; Zoology 1-2; or Mathematics 3 and 6 or 6 and 12. .... 6 or 8
Other Courses .....	Psychology 1 and 22 ..... 6
	Speech 1 or 11 ..... 3
	Statistics 53 ..... 3
Physical Education ..	See page 41 for statement of requirement. .... 4 to 6
Elective .....	..... 4 to 6
Total.....	60

**2. HOME ECONOMICS**

The following two-year curriculum prepares for the Bachelor of Science in Home Economics curriculum in the School of Education:

	Credit Hours
English .....	English 1-2 ..... 6
	English 51-52, 71-72; Speech 1, 2 (1, 11) ..... 6
Foreign Language ...	(French, German, Latin, or Spanish). See page 55 for foreign language requirement. .... 12
Social Studies*	Economics, History, Political Science, or Sociology ..... 6
Science .....	Chemistry 3-4, 11-12 (Sophomore year) ..... 8
Psychology .....	Psychology 1 ..... 3
Physical Education ..	See page 41 for statement of requirement.

\* Courses selected with the recommendation of the adviser in the Department of Home Economics.



	Credit Hours
Curriculum Electives. Home Economics 1, 22 (Freshman year).....	6
Home Economics 51, 62 (Sophomore year)....	6
Academic Electives .. (Freshman year) .....	3
(Sophomore year) .....	4
Total.....	60

### 3. PHYSICAL EDUCATION FOR MEN

The following two-year curriculum prepares for the Bachelor of Science in Physical Education curriculum in the School of Education:

	Credit Hours
English ..... English 1-2 .....	6
Social Studies ..... History 39-40, 71-72, Political Science 9-10, or Sociology 1-2 (Freshman year).....	6
Economics, History, or Political Science (Soph- omore year) .....	6
Science ..... Biology 1-2 or Zoology 1-2 (Freshman year) ..6	or 8
Physical Education .....	8
Curriculum Electives. Physical Education 43-44, 47; Speech 1 or 11 (Freshman year) .....	9
Physical Education 45-46, 49, 50, 58; Psychology 1, 22 (Sophomore year) .....	18
Elective .....	9
Total.....	68 or 70

### 4. PHYSICAL EDUCATION FOR WOMEN

The following two-year curriculum prepares for the Bachelor of Science in Physical Education curriculum in the School of Education:

	Credit Hours
English ..... English 1-2 .....	6
English 51-52, 71-72, or 91-92 .....	6
Social Studies ..... History 39-40, 71-72; Political Science 9-10; or Sociology 1-2 .....	6
Science ..... Biology 1-2 or Zoology 1-2 .....	6 or 8
Physical Education .....	4
Curriculum Electives. Physical Education 43-44 (Freshman year)....	4
Physical Education 45-46, 49, 50; Psychology 1, 22 (Sophomore year) .....	16
Academic Electives .. (Each year) .....	6 or 8
Total.....	64 or 66

**SCHOOL OF GOVERNMENT:****1. ACCOUNTING AND BUSINESS ADMINISTRATION**

The following two-year curriculum prepares for the Bachelor of Arts in Government curricula in Accounting and in Business Administration in the School of Government:

	Credit Hours
Accounting ..... Accounting 1-2 .....	6
English ..... English 1-2, 11 .....	9
Foreign Language ... See page 55 for foreign language requirement...	12
Social Studies ..... Economics 1-2 .....	6
..... History 71-72 or Political Science 9-10.....	6
..... Speech 1 .....	3
Statistics ..... Statistics 51, 52 .....	6
Physical Education .. See page 41 for statement of requirement.	
Elective ..... (Students interested in Foreign Commerce in- clude Geography 51) .....	12
Total.....	60

**2. FOREIGN AFFAIRS**

The following two-year curriculum prepares for the Bachelor of Arts in Government curriculum in Foreign Affairs in the School of Government:

	Credit Hours
English ..... English 1-2 .....	6
Foreign Language ... See page 55 for foreign language requirement...	12
Social Studies ..... Economics 1-2, History 39-40, 71-72; Political Science 9-10 .....	24
Mathematics, Science, Biology, Botany, Chemistry, Mathematics, Phys- ics, Statistics, or Zoology.....	6 or 8
Physical Education .. See page 41 for statement of requirement.	
Elective ..... (To satisfy minimum required credits. Students interested in Foreign Service include Geog- raphy 51.) .....	12
Total.....	60 or 62

**3. STATISTICS**

The following two-year curriculum prepares for the Bachelor of Arts in Government curriculum in Statistics in the School of Government:

	Credit Hours
English ..... English 1-2 .....	6
Foreign Language ... See page 55 for foreign language requirement...	12

	Credit Hours
Social Studies ..... Economics 1-2, Philosophy 51-52.....	12
Mathematics ..... Mathematics 20 and prerequisites.....	3 to 12
Statistics ..... Statistics 91-92 .....	6
Physical Education .. See page 41 for statement of requirement.	
Elective .....	12 to 21
Total.....	60

### VOCATIONAL CURRICULA

In addition to the above curricula, all of which prepare for admission to upper division colleges and schools, the Junior College offers the following two-year terminal courses.

#### 1. SECRETARIAL STUDIES

	Credit Hours
English ..... English 1-2 .....	6
..... English 51-52, 71-72, or 91-92 .....	6
Social Studies ..... Economics 1-2 .....	6
General ..... Accounting 1 .....	3
..... Speech 11 .....	3
Secretarial Studies* .. Secretarial Studies 1, 2, 11, 12, 15, 16, 51, and 54	24
Physical Education .. See page 41 for statement of requirement.	
Elective ..... (To be selected with approval of adviser).....	12
Total.....	60

#### 2. ACCOUNTING

The required work may be completed in two years on a full-time basis or in three years on a part-time basis, with the approval of the adviser.

##### REQUIRED COURSES

	Credit Hours
Accounting 1-2.....	6
Accounting 102.....	3
Accounting 111.....	3
Accounting 137.....	3
Accounting 147.....	3
Accounting 151-52.....	6
Accounting 153.....	3
Accounting 161.....	3

\* Qualified students, upon the approval of the adviser or the satisfactory completion of a placement test, may waive Secretarial Studies 1, 11, and 12. Other courses, approved by the adviser, will be substituted.



	Credit Hours
Business Administration 102.....	3
Business Administration 131.....	3
Economics 1-2 .....	6
English 1-2 .....	6
Political Science 127.....	3
Political Science 128.....	3
Physical Education See page 41 for statement of re- quirement.	
Elective .....	6
(To be selected with the ap- proval of the adviser.)	
Total.....	60

#### Examinations for Waiving Curriculum Requirements \*

A student desiring to omit a required course may take such examination as the department prescribes, and, on passing satisfactorily, he may be relieved of the curriculum requirements in that subject and may qualify for registration in an advanced course. Passing this examination does not entitle the student to any hours of credit toward the degree. A student desiring to take such examinations should make written request of the Dean and pay the required fee at the Office of the Comptroller before the date of the examination specified in the University calendar.

#### Honors

The degree of Associate in Arts may be conferred "with distinction" upon the student who has a quality-point index of 3.50 or higher, provided that student has been in residence at the University for 30 hours, 15 of which must have been taken in the Junior College at the time the index is calculated.

\* This provision does not apply to the premedical student, all of whose required premedical work must be taken in a recognized college of arts and sciences.

## COLUMBIAN COLLEGE

### THE FACULTY AND STAFF OF INSTRUCTION \*

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
 Henry Grattan Doyle, A.M., LL.D., Litt.D., *Dean of Columbian College*

Calvin Darlington Linton, Ph.D., *Assistant Dean of Columbian College*

Thomas Benjamin Brown, Ph.D., *Professor of Physics*  
 Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*

Joseph Hyram Roe, Ph.D., *Professor of Biochemistry*

Norris Ingersoll Crandall, M.Arch., *Professor of Art*

Edward Henry Sehrt, Ph.D., *Professor of German*

Robert Whitney Bolwell, Ph.D., *Professor of American Literature*

Walter Lynn Cheney, Ph.D., *Professor of Physics*

James Henry Taylor, Ph.D., *Professor of Mathematics*

Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*

Errett Cyril Albritton, A.B., M.D., *Fry Professor of Physiology*

Donnell Brooks Young, Ph.D., *Professor of Zoology*

George Gamow, Physics D., *Professor of Theoretical Physics*

Warren Reed West, Ph.D., *Professor of Political Science*

Frank Mark Weida, Ph.D., *Professor of Statistics*

Francis Edgar Johnston, Ph.D., *Professor of Mathematics*

Leland Wilbur Parr, Ph.D., *Professor of Bacteriology*

Benjamin Douglass Van Evera, Ph.D., *Professor of Chemistry*

Mitchell Dreese, Ph.D., *Professor of Educational Psychology*

§Merle Irving Protzman, Ph.D., *Professor of Romance Languages*

Florence Marie Mears, Ph.D., *Professor of Mathematics*

Wood Gray, Ph.D., *Professor of American History*

Thelma Hunt, Ph.D., M.D., *Professor of Psychology*

Ira Bowers Hansen, Ph.D., *Professor of Zoology*

John Albert Tillema, Ph.D., LL.M., S.J.D., *Professor Emeritus of Political Science in Residence*

Paul William Bowman, Ph.D., *Professor of Biology*

Lawson Edwin Yocum, Ph.D., *Professor of Botany*

Arthur Edward Burns, Ph.D., *Professor of Economics*

John Withrow Brewer, Ph.D., *Professor of International Law*

Louis Clark Keating, Ph.D., *Professor of Romance Languages*

\* The President of the University, the Dean and the Assistant Dean of the College, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, and Assistant Professors constitute the Faculty.

§ On sabbatical leave 1952-53.

Paul Kenneth Smith, Ph.D., *Professor of Pharmacology*  
 Harold Loran Geisert, Ph.D., *Professor of Sociology*  
 Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*  
 Charles Rudolph Naeser, Ph.D., *Professor of Chemistry*  
 Howard Maxwell Merriman, Ph.D., *Professor of American Diplomatic History*

\*Ernest Sewall Shepard, A.M., *Professor of English Literature*  
 George Winchester Stone, Jr., Ph.D., *Professor of English Literature*  
 Fred Salisbury Tupper, Ph.D., *Professor of English Literature*  
 Warren Andrew, Ph.D., M.D., *Professor of Anatomy*  
 Alan Thomas Deibert, A.M., *Professor of Romance Languages*  
 Chester Elwood Leese, Ph.D., *Professor of Physiology*  
 Donald Stevenson Watson, Ph.D., *Professor of Economics*  
 Myron Law Koenig, Ph.D., *Professor of American History*  
 Calvin Darlington Linton, Ph.D., *Professor of English Literature*  
 Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*  
 Charles Edward Gauss, Mus.B., Ph.D., *Elton Professor of Philosophy*  
 Elbridge Colby, Ph.D., *Professor of Journalism*  
 Donald Chenoweth Kline, B.Arch., M.F.A., *Professor of Art*  
 Charles William Cole, Ph.D., *Professor of American Literature*  
 George Martin Koehl, A.M., *Professor of Physics*  
 James Christopher Corliss, A.M., *Adjunct Professor of Inter-American Economics*

Edward Champion Acheson, Ph.D., *Associate Professor of Finance*  
 John Francis Latimer, Ph.D., *Associate Professor of Classical Languages and Literatures*

Irene Cornwell, Ph.D., *Associate Professor of French*  
 Antonio Alonso, A.M., *Associate Professor of Spanish*  
 Gretchen Louisa Rogers, Ph.D., *Associate Professor of German*  
 Wolfram Karl Legner, Ph.D., *Associate Professor of German*  
 Lubin Poe Leggette, A.M., *Associate Professor of Speech*  
 Robert Dale Campbell, Ph.D., *Associate Professor of Geography*  
 Lawrence Daniel Folkemer, Ph.D., *Associate Professor of Religion*  
 Robert Randal Meijer, Ph.D., *Associate Professor of Physics*  
 Robert Corbin Vincent, Ph.D., *Associate Professor of Chemistry*  
 Wolfgang Herbert Kraus, Dr.Jur., S.J.D., *Associate Professor of Political Science*

Curtis Edward Tuthill, Ph.D., *Associate Professor of Psychology*  
 Roderic Hollett Davison, Ph.D., *Associate Professor of European History*  
 ‡George Francis Henigan, Jr., Ph.M., *Associate Professor of Speech*  
 Robert Hamilton Moore, Ph.D., *Associate Professor of English Composition*

\* On sabbatical leave spring term 1952-53.

‡ On sabbatical leave 1952-53.



Edith Elizabeth Mortensen, Ph.D., *Associate Professor of Zoology*  
 Calvin Weir Petit, Ph.M., *Associate Professor of Speech*  
 Edwin Lockwood Stevens, A.M., *Associate Professor of Speech*  
 Reuben Esselstyn Wood, Ph.D., *Associate Professor of Chemistry*  
 Nels David Nelson, Ph.D., *Associate Professor of Mathematics*  
 James Harold Coberly, Ph.D., *Associate Professor of American Literature*  
 William Frederick Sager, Ph.D., *Associate Professor of Chemistry*  
 John Edward Cantlon, Ph.D., *Associate Professor of Botany*  
 Sam Clark Munson, M.S., *Assistant Professor of Biology*  
 Martin Steele Day, Ph.D., *Assistant Professor of English*  
 Willard Edmund Caldwell, Ph.D., *Assistant Professor of Psychology*  
 Ronald Bettes Thompson, A.B., *Assistant Professor of European History*  
 Rafael Supervía, Doctor en Derecho, *Assistant Professor of Spanish*  
 John Gage Allee, Jr., A.M., *Assistant Professor of English*  
 Bernard Hayman Fox, Ph.D., *Assistant Professor of Psychology*  
 Richard Catlin Haskett, Ph.D., *Assistant Professor of American History*  
 Walter Hall Bailey, A.M., *Assistant Professor of Geography*  
 Mary Carman Rose, Ph.D., *Assistant Professor of Philosophy*  
 James Coogan, Ph.D., *Assistant Professor of Economics*  
 Howard Rowland Ludden, A.M., *Assistant Professor of Political Science*  
 Alberto Vázquez, Ph.D., *Lecturer on Spanish American Literature*

## COMMITTEES •

## THE DEAN'S COUNCIL ‡

1952

Merle Irving Protzman  
 James Harold Coberly

1953

George Martin Koehl  
 Martin Steele Day

1954

Thelma Hunt  
 Francis Edgar Johnston

## COMMITTEE OF ADMISSION AND ADVANCED STANDING

Calvin Darlington Linton, *Chairman*Edith Elizabeth Mortensen, *Secretary*

Alan Thomas Deibert

Charles William Cole

Robert Randal Meijer

\* The President of the University and the Dean of Columbian College are members ex officio of all committees.  
 ‡ Elected by the Faculty.

## COMMITTEE ON THE USE OF CORRECT ENGLISH

Averett Howard, *Chairman*George Francis Henigan, Jr.  
Muriel Hope McClanahanEdith Elizabeth Mortensen  
Martin Steele Day

## COMMITTEE ON SCHOLARSHIP

Fred Salisbury Tupper, *Chairman*Florence Marie Mears  
Howard Maxwell MerrimanSamuel Nathaniel Wrenn  
Antonio Alonso

## COMMITTEE ON STUDIES

The Dean of the College, *Chairman*Gretchen Louisa Rogers  
(*Languages and Literatures*)  
Florence Marie Mears  
(*Mathematics and Physical  
Sciences*)Edith Elizabeth Mortensen  
(*Natural Sciences*)  
Wood Gray  
(*Social Sciences*)

## DIVISIONAL ORGANIZATIONS

## LANGUAGES AND LITERATURES

Alan Thomas Deibert, *Chairman*  
Muriel Hope McClanahan, *Secretary*

## Educational Committee

Gretchen Louisa Rogers, *Chairman*  
John Francis Latimer  
William Lewis Turner

## MATHEMATICS AND THE PHYSICAL SCIENCES

Nels David Nelson, *Chairman*

## Educational Committee

Florence Marie Mears, *Chairman*  
Robert Randal Meijer  
Everett Herschel Johnson

NATURAL SCIENCES

Thelma Hunt, *Chairman*

Educational Committee

Edith Elizabeth Mortensen, *Chairman*

Chester Elwood Leese

Curtis Edward Tuthill

SOCIAL SCIENCES

Ronald Bettes Thompson, *Chairman*

Lawrence Daniel Folkemer, *Secretary*

Educational Committee

Harold Loran Geisert, *Chairman*

Donald Stevenson Watson

Roderic Hollett Davison

GENERAL INFORMATION

INTRODUCTORY

Columbian College was founded in 1821. James Monroe, then President of the United States, aided in obtaining the charter from Congress which established "The Columbian College in the District of Columbia" for the "sole and exclusive purpose of educating youth in the English, learned and foreign languages, the liberal arts, sciences and literature", with full power to confer all degrees "usually granted and conferred in colleges".

In 1930, when the Junior College was established, the name "Columbian College" was bestowed upon the senior college of liberal arts.

THE COLUMBIAN COLLEGE PROGRAM

In The George Washington University, the program for liberal arts and sciences extends from the general collegiate education of the Junior College (the freshman and sophomore years), through the instruction for the Bachelor's degrees of Columbian College (the junior and senior years), and the studies for the Master's degrees which are also in Columbian College, to the graduate discipline leading to the degree of Doctor of Philosophy, which is administered by the Graduate Council.

The purpose of Columbian College is to round out the program of



liberal education begun in the Junior College and to bring to a focus educationally the individual talents and aptitudes of the student of liberal arts and sciences.

The program involves a comprehensive survey of a field of study, together with such knowledge of other fields as will contribute to the general educational development of the student. A field of study may be confined to one department or may involve a group of related courses in more than one department, or more than one division.

#### DIVISIONAL ORGANIZATIONS

The following divisions have been established in The George Washington University based on the relationship of course content, interrelation of methods and prerequisites, and similarity of background and viewpoint:

1. *The Division of Languages and Literatures.*—The departments of Classical Languages and Literatures, English, Germanic Languages and Literatures, and Romance Languages and Literatures.
2. *The Division of Mathematics and the Physical Sciences.*—The departments of Biochemistry, Chemistry, Mathematics, Pharmacology, Physics, and Statistics.
3. *The Division of the Natural Sciences.*—The departments of Anatomy, Bacteriology, Biology, Botany, Geography, Geology, Neurology, Pathology, Physiology, Psychology, and Zoology.
4. *The Division of the Social Sciences.*—The departments of Accounting, Business Administration, Economics, Education, History, Law, Philosophy, Political Science, Religion, Sociology, and Speech.

The departments under these University divisions function for Columbian College only in such fields of study as are appropriate for a senior college of arts, letters, and sciences.

#### REGULATIONS

*Students in Columbian College are subject to, and are expected to familiarize themselves with, the regulations regarding ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 12-25, and the University regulations stated on pages 38-44.*

#### PREREQUISITES

It is assumed that a student entering Columbian College has met the requirements of the Junior College under the *Arts and Letters* curriculum or the *Science* curriculum. Following is a summary of these prerequisites:

The *Arts and Letters* curriculum: (1) Freshman English (6 credit hours) and an additional sophomore-year course (6 credit hours) in English, American, or European literature. A first-group course in Art,

Classical Languages, or Philosophy may be substituted for the sophomore course in English. (2) Two college years (at least 12 credit hours) of a single foreign language or the equivalent (see foreign-language requirement, page 55), are required. A transfer student who has had foreign-language courses in another institution meeting 4 or 5 times a week may have acquired as much as 12 credit hours in a foreign language without having taken four terms (two full years). Such a student is required to take additional work here in the same language until he has completed four terms (or an equivalent combination of high school years and college terms). (3) At least one year (6 credit hours) in social studies, chosen from first-group courses in History, Political Science, Economics, or Sociology, is required. (4) At least one year (6 or 8 credit hours) of a laboratory science (Biology, Botany, Chemistry, Physics, or Zoology) is required.

The remaining hours of the Junior College program (roughly a minimum of 22 to 24 hours) should be devoted to the prerequisite courses required by the prospective major department (as stated following the departmental staff in the courses of instruction section of the CATALOGUE) or recommended by the advisers in the field-of-study major (see pamphlets prepared by the respective advisers), together with appropriate electives.

The *Science* curriculum requirements in English are the same as those of the Arts and Letters curriculum, except that a year of a social study may be substituted for the sophomore requirement in English, Art, or Philosophy; in other words, the sophomore English and social studies requirements are combined, and may be met by taking at least 6 credit hours in English, Art, Classical Languages, Philosophy, or a social study. The foreign-language requirement is the same as for the Arts and Letters curriculum, except that French or German is specified. At least 6 credit hours in Mathematics must be taken; additional work in Mathematics is required of prospective majors in Chemistry or Physics. In science, the student should take courses in both biological and physical sciences, bearing in mind the prerequisites stated by the department under which he expects to major as well as specified prerequisites in certain departments (such as Mathematics and Chemistry for majors in Physics, or Mathematics and Physics for majors in Chemistry).

A transfer student admitted to Columbian College with deficiencies in freshman or sophomore work (whether in amount or in distribution of courses), corresponding to the programs outlined above, is required to begin to make up such deficiencies immediately upon admission to Columbian College, and to carry courses for the purpose each term until all the general education requirements described above are satisfied. Students transferring from the School of Government must complete pre-

Columbian College requirements in science and in Sophomore English (or Art, Classical Languages, or Philosophy), as prescribed in the Arts and Letters curriculum.

#### AMOUNT OF WORK

A full-time student who is not on probation may take ordinarily not more than seventeen credit hours. A student employed more than twenty-four hours a week, who is not on probation, may take not more than ten credit hours.

A full-time student whose quality-point index is 3.50 or higher may take not more than nineteen credit hours. An employed student who meets the same standard may take not more than twelve credit hours.

A student previously unemployed who accepts employment subsequent to registration or at any time during a term is required to report that fact immediately to the Dean, in order that adjustments in schedule may be made, if necessary, to bring his program within the Faculty's limitations upon the amount of work to be carried by an employed student.

#### ATTENDANCE

The student is held responsible for all the work of the courses in which he is registered, and all absences must be excused by the instructor in charge before provision is made for the student to make up the work missed. Excessive absence in any course will lead to loss of credit in that course, even though other requirements, such as tests, term-papers, and examinations, are met.

#### CLASSIFICATION OF STUDENTS

A student who has completed less than thirty credit hours in Columbian College, and who has registered his major at the Office of the Registrar, is classed as a *junior*. A student who has completed thirty credit hours in Columbian College, including at least one course in his major, is classed as a *senior*. A student who has satisfactorily completed the work for the Bachelor's degree, and whose program of study has been approved and filed in the Office of the Registrar, is classed as a *master in course*.

#### INDEPENDENT STUDY PLAN

Under the independent study plan a student of demonstrated capacity, with special interest in the subject matter of a course, may be permitted to undertake independent study under the personal direction of an instructor, in accordance with the rules of the division in which the subject



falls. Credit under this plan is limited to the specific course-credits as designated in the list of courses of instruction in the CATALOGUE.

#### CORRESPONDENCE AND HOME-STUDY COURSES

No credit is given for work done by correspondence or in home-study courses.

#### THE BACHELOR'S DEGREES

Upon the satisfactory completion of the undergraduate requirements of Columbian College, the degree of Bachelor of Arts or Bachelor of Science is conferred.

In cooperation with the School of Medicine a seven-year curriculum leading to the combined degrees of Bachelor of Arts and Doctor of Medicine is offered.

#### REQUIREMENTS FOR THE DEGREES

##### RESIDENCE

For the residence requirement, see page 41.

##### SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 38 and 39.

In order to graduate, a student must have a general quality-point index of at least 2.00. In addition, he must have a quality-point index of at least 2.50 in his major subject.\* Grades in courses taken at other institutions are not considered in computing the quality-point index.

In computing the quality-point index in the major, all second-group and third-group courses in the major field taken at The George Washington University are included, even though minimum requirements for the major may have been exceeded, except when registration for graduate credit is approved. Grades received in first-group courses are not considered.

*Probation.*—A student must maintain a quality-point index of at least 2.00, or be placed on probation. A student remains on probation as long as his quality-point index is below 2.00, or until his probation is removed by the Committee on Scholarship.

*Suspension.*—A student who has a quality-point index below 1.50 or who is placed on probation for a third term, whether successive or after an interval, is suspended.

\* Except in a Field-of-Study Major, in which ability to pass the Major Examination is accepted as meeting qualitative requirements in the major field.

A student suspended for poor scholarship may apply for readmission after an interval of a calendar year. He must then submit evidence to the Committee on Admission and Advanced Standing that during his absence from the University he has so conducted himself as to indicate that he will profit by readmission. A student suspended twice for poor scholarship will not be readmitted.

For the purpose of these rules, the summer sessions are considered a term.

The foregoing scholarship rules are applied to a student with a limited schedule only when he has undertaken a minimum of fifteen credit hours.

#### CURRICULUM REQUIREMENTS

The curriculum requirements for the Bachelor's degrees include at least sixty credit hours beyond the requirements of the Junior College (the curriculum in *Arts and Letters* or in *Science*) and the satisfactory completion of the major. Each program must be approved by the major adviser and by the Dean.

At least twenty-four credit hours of the last sixty credit hours counted towards the Bachelor's degree must be taken in subjects\* not included in the major field or department. The student should consult his major adviser at each registration regarding the inclusion in his program of suitably distributed electives, with a view to meeting this requirement before graduation.

Except for students registered for the combined degrees of Bachelor of Arts and Doctor of Medicine, not more than twelve credit hours of professional courses may be included in the one hundred and twenty credit hours required for the Bachelor's degrees in Columbian College. Columbian College students electing professional courses under this rule must obtain the approval, in advance, of the Dean of Columbian College. Ordinarily courses in Physical Education and technical courses in Education will not be approved for credit toward a degree in Columbian College.

After selecting a curriculum, a student may not change to another except by permission of the Dean and on condition that he fulfill the requirements of the curriculum to which he changes as of the date when the change is approved by the Dean.

Each student is required to select and file with the Registrar a choice of major upon entering Columbian College. He may change the major only with the consent of the Dean and of the department or division

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\* Art, Biology, Botany, Chemistry, Classical Languages and Literatures, Economics, English, Geography, Geology, Germanic Languages and Literatures, History, Journalism, Mathematics, Philosophy, Physics, Political Science, Psychology, Religion, Romance Languages and Literatures, Sociology, Speech, Statistics, Zoology.

concerned, and must meet the requirements for the major to which he changes as of the date when the change is approved by the Dean.

First-group courses may be required as prerequisites to undergraduate-major programs, but because of their introductory character may not be counted as part of such programs. (See "Explanation of Course Numbers".)

Students transferring from other institutions with major requirements wholly or substantially met will, nevertheless, be required to complete satisfactorily at least twelve credit hours of approved work in the major field in The George Washington University in order to receive a Bachelor's degree. This work will count as part of the minimum residence requirement.

*Examinations for Waiving Curriculum Requirements.*—A student desiring to omit a required or prerequisite course may take such examination as the department prescribes, and, on passing satisfactorily, he may be relieved of the curriculum or prerequisite requirement in that subject and may qualify for registration in an advanced course. Passing of this examination shall not entitle him to any credit toward the degree. A student desiring to take such examinations should make written request of the Dean and pay the required fee at the Office of the Comptroller before the date of the examination specified in the University calendar.

*Use of Correct English.*—Any student whose English in any course whatever is deemed unsatisfactory may be reported by the instructor to the Dean and to the Committee on the Use of English. The Chairman of the Committee may assign supplementary work, without academic credit, varying in amount with the needs of the student. If the work prescribed is equivalent to a course, the regular tuition fee is charged. The granting of a degree may be delayed by failure to make up any such deficiency in English to the satisfaction of the Committee and the Dean.

### Bachelor of Arts

The work of the junior and senior years, including a major in one of the following major fields, must be approved by the major adviser and by the Dean.

*Major Fields.*—American Thought and Civilization, Art (Appreciation or Drawing and Painting), Biology, Botany, Chemistry, Economics, English Literature, French Literature, Geography, Geology, Germanic Languages and Literatures, History, Journalism (News-Editorial or Public Relations), Latin American Civilization and Culture, Mathematics, Philosophy, Physics, Political Science, Psychology, Religion, Sociology, Spanish American Literature, Spanish Literature, Speech, Statistics, Zoology.

*Combined Degrees of Bachelor of Arts and Doctor of Medicine.*—A



candidate for the combined degrees of Bachelor of Arts and Doctor of Medicine must: (1) complete the premedical college requirements (see pages 15-16); (2) fulfill the Columbian College residence requirement of at least thirty credit hours; (3) obtain the approval of the Dean of Columbian College at the time of entering the School of Medicine; (4) obtain the recommendation of the Dean of the School of Medicine at the completion of all prescribed courses in the first year of the School of Medicine, at which time the degree of Bachelor of Arts will be conferred (professional work taken at another institution will not satisfy the major requirement for the combined degrees); (5) maintain throughout the entire course the scholarship level required for graduation.

#### Bachelor of Science

The work of the junior and senior years, including a major in one of the sciences mentioned below, must be approved by the major department or division and by the Dean.

##### *Biological Sciences*

Biology  
Botany  
Zoology

##### *Physical Sciences*

Chemistry  
Mathematics  
Physics  
Statistics

### THE UNDERGRADUATE MAJOR\*

There are two types of undergraduate majors: the field-of-study major and the departmental major.

#### THE FIELD-OF-STUDY MAJOR

Each Field-of-Study Major covers a carefully worked out field of coordinated study and is under the supervision of the division or divisions concerned.

The *Field-of-Study Major* requires no specific number of credit hours, no specific program of courses, and no specific quality-point index for the major, although the student is required to meet the over-all general requirements for the degree (at least 120 credit hours, plus required physical education, with a quality-point index of at least 2.00). The Major Examination in the Field-of-Study Major replaces all of the traditional quantitative and qualitative requirements for a major. Ability to pass the Major Examination is assumed to be a convincing demonstration that the student possesses the breadth, depth, and quality of knowledge

\* For a complete description of the undergraduate major, see the special bulletin.

of his major usually defined in terms of credit hours, courses, grades, and a better-than-average quality-point index. A pamphlet prepared under the direction of the adviser in the field of study and obtainable either from the adviser or from the Office of the Dean of Columbian College provides the information needed by the prospective student, who should place himself under the direction of the appropriate adviser immediately upon completing Junior College work and beginning his junior year (the first senior-college year) in Columbian College.

The Field-of-Study Major places special emphasis on the intellectual development of the individual student. Programs in the same major may vary, depending upon the individual student's background, previous study, reading habits, and aptitudes. The student is expected to consult his adviser frequently, and the special proseminar offered in the field gives him further opportunity for individual advice and direction in pursuing a program especially adapted to his needs and abilities. A close student-adviser relationship is essential for the student's success under the Field-of-Study Major plan.

The following Field-of-Study Majors are offered: (1) American Thought and Civilization, (2) Biology, (3) English Literature, (4) French Literature, (5) History, (6) Latin American Civilization and Culture, (7) Philosophy, (8) Spanish American Literature, (9) Spanish Literature, (10) Statistics, (11) Zoology.

The major in Biology extends broadly over the work of its division; and those in American Thought and Civilization and in Latin American Civilization and Culture involve studies in two divisions, those of Languages and Literatures and of Social Studies. The other Field-of-Study Majors, with the exception of the major in Spanish American Literature, replace departmental majors in their respective fields. A candidate for a Bachelor's degree with a major in Biology, English Literature, French Literature, History, Philosophy, Spanish Literature, Statistics, or Zoology must elect a Field-of-Study Major.

#### Proseminar in the Major

For the convenience of the student a proseminar is offered in each field of study, under the supervision of the division in which the major is taken. This course, planned and administered by the professor or adviser of the major subject, will advise, guide, and instruct the student in his reading, study, and laboratory exercises in order to assist him in gaining a coordinated knowledge of his field. It is a presentation of the content and methods of the major field as a whole through the organization and coordination of the knowledge obtained in the various formal courses in the major subject and of material not usually included in such courses. This course is not required. Six credit hours, but no qualitative grade,

may be assigned. When registered in this course, the student will have the privilege of visiting, subject to the approval of the instructor, any other course offered in the College. (Regular attendance in a course, either for credit or as an auditor, requires registration and payment of tuition.) Proseminars are open only to the student who has been accepted as a candidate under that specific major.

#### THE MAJOR EXAMINATION

The Major Examination will normally be taken by the student at the close of the senior year; in the case of a student on a limited schedule, the Major Examination may be taken not earlier than one calendar year before graduation. A student who fails to pass a Major Examination may, at the discretion of the Columbian College Committee on Studies, be reexamined at a later regular major-examination period. The educational committees of the respective divisions will have general supervision of the preparation, reading, and grading of Major Examinations. Major Examinations will be held in each regular term on dates fixed by the respective educational committees, but in no case later than January 15 for the fall term, May 15 for the spring term, and August 7 for the summer term.

#### DEPARTMENTAL MAJORS

*Departmental Majors*, unlike *Field-of-Study Majors*, are specifically defined in terms of credit hours, required courses, and the attainment of a quality-point index of at least 2.50 in all second-group courses taken in the major field. The minimum specific requirements for Departmental Majors are listed below the staff of instruction of the department concerned in the section of the CATALOGUE devoted to courses of instruction. The Executive Officer of the Department, or his representative at registration, should be consulted concerning the student's program of courses, and the entire program, including electives, must be approved by the Department. The student is also expected to consult the Executive Officer or adviser in all matters affecting his program of studies, such as changes, substitutions, or withdrawals, and especially concerning his progress in his courses. As far as possible the close student-adviser relationship developed in the *Field-of-Study Major* will be cultivated also in *Departmental Majors*.

Until further notice Departmental Majors will be offered in the following: Art (Appreciation, Drawing and Painting), Botany, Chemistry, Economics, Geography, Geology, Germanic Languages and Literatures, Journalism (News-Editorial or Public Relations), Mathematics, Physics, Political Science, Psychology, Religion, Sociology, and Speech.



## THE MASTER'S DEGREES

Upon the satisfactory completion of the graduate requirements of Columbian College, the degree of Master of Arts or Master of Science is conferred.

### DEFINITION OF THE MASTER'S WORK

The study leading to the degree of Master of Arts or Master of Science is a comprehensive survey of a field of knowledge. It is a continuation of the work of the student's undergraduate major and involves a greater acquaintance with scholarly method.

The student must satisfy certain minimum requirements as to previous preparation, residence, ability to read an approved modern foreign (European) language, and courses taken; but these requirements, while essential, are regarded primarily as qualifying measures. The student's knowledge of his field, as demonstrated by his thesis and by the results of his Master's Examination (together with such other examinations involving special skills or techniques as the department or division may require), is the basis upon which the Master's degree is conferred.

### MASTER OF ARTS

Graduate work leading to the degree of Master of Arts is offered in the following fields:

American Literary and Cultural History, Bacteriology, Biochemistry, Biology, Botany, Chemistry, Economics, English and American Literature, English Literature, French Literature, Geography, Geology, Germanic Languages and Literatures, History, International Relations, Latin American Civilization and Culture, Mathematics, Pharmacology, Philosophy, Physics, Physiology, Political Science, Psychology, Sociology, Spanish American Literature, Spanish Literature, Statistics, Zoology.

Special programs involving coordinated work in two or more departments may be arranged with the approval of the appropriate division or divisions.

### MASTER OF SCIENCE

Graduate work leading to the degree of Master of Science is offered in the following fields:

Anatomy, Bacteriology, Biochemistry, Biology, Botany, Chemistry, Mathematics, Pharmacology, Physics, Physiology, Psychology, Statistics, Zoology.

Special programs involving coordinated work in two or more departments may be arranged with the approval of the appropriate division or divisions.

## REQUIREMENTS FOR THE DEGREES

## RESIDENCE

An academic year of residence in Columbian College is required, i.e., completion of a minimum of thirty credit hours of work including the thesis, which is counted as the equivalent of six credit hours of course work. Summer term work may be counted in residence, but in no case may the period of residence aggregate less than twenty-seven weeks. Not more than twelve credit hours (which must be approved in advance by the Dean of Columbian College) may be taken in another school or division of this University, and such work may not be counted toward both a degree in that school or division and the Master's degree in Columbian College. No part of the minimum requirement may be taken elsewhere. All work for the degree of Master of Arts or Master of Science must be completed within a maximum of three years, unless the Dean's Council considers the circumstances so unusual as to justify an extension of time.

## SCHOLARSHIP

A student whose scholarship is unsatisfactory may be suspended by the Dean upon recommendation of the Division under which the student is working. Regarding the system of grading, see pages 38 and 39.

## PROGRAM OF STUDIES

The student's program of studies must be outlined in detail at the beginning of his work, in triplicate, on forms available at the Office of the Dean. Each program is subject to the approval of the department and the division. The program may be revised as the occasion requires, but any change necessitates a repetition of the procedure just described.

Courses numbered from 1 to 100 may not be credited toward the Master's degrees, but may in certain instances be required as a basis for advanced work. (See "Explanation of Course Numbers".)

A student who expects to continue his studies for the degree of Doctor of Philosophy after receiving the Master's degree is strongly advised so to plan his program from the beginning that work for the lower degree may help to prepare him for the higher.

## ADMISSION TO CANDIDACY

A student must be admitted to candidacy before he begins the last half of his work for the Master's degree. Application for admission to candidacy is made on a form obtained at the Office of the Registrar, and must be approved by the appropriate representative of the department or division and by the Dean. If a prospective candidate, in his previous academic work, has not substantially satisfied the prerequisites for the

Master's degree, including the undergraduate major as defined by the appropriate department or division, he will not be admitted to candidacy until such deficiency has been made up. He may make up his deficiencies by electing appropriate courses in addition to those counted towards his degree.

Before being admitted to candidacy the student must also show that he has a reading knowledge (certified by the appropriate foreign-language department) of at least one modern foreign (European) language, selected by the division under which he is studying. A student whose field is a modern foreign language or literature may not offer that language in satisfaction of the reading-knowledge requirement. Any Master's candidate who chooses to meet the Master's language requirement in French or German and has not passed the French or German foreign language examination by the end of fifteen attempted credit hours must register for French 107 or German 107 as part of his next registration. The Master's reading examination will be given during the first week of the course and again at the end. Those who pass the first examination are excused from the course and will receive a refund of tuition.

#### THE MASTER'S THESIS

The thesis may be of a research, expository, critical, or creative type. The main purpose of a Master's thesis is to demonstrate the student's ability to make independent use of the information and training acquired through his other disciplines, and to furnish objective evidence of his constructive powers in his chosen field. Registration for the thesis must be no later than the beginning of the final year of preparation, unless the professor in charge of the thesis permits registration at the beginning of the final term. The choice of the thesis subject must be approved by the professor in charge of the student's field and recorded in the Office of the Registrar by the date announced in the University calendar. Registration for the thesis is ordinarily made on the basis of three credit hours a term for two successive terms. In exceptional cases, and with the approval of the professor in charge of the thesis, the student may register for the entire six credit hours during a single term. The typewritten thesis in its final form must be submitted by the student for the approval of the professor in charge of the student's field and of the educational committee of the division concerned, not later than the date announced in the University calendar. Requirements regarding the form of the thesis are stated on page 42, and additional information will be supplied by the Dean.

Payment of tuition for the thesis entitles the candidate, during the academic year of registration, to the advice and direction of the member of the faculty under whom the thesis is to be written. In case a thesis



is unfinished, an additional successive academic year may be granted without further tuition payment. If the preparation of the thesis extends beyond the two-year period the student must register for it again, and pay tuition on the same basis as for a repeated course.

#### THE MASTER'S EXAMINATION

In addition to such other examinations as may be required, the candidate must pass a general written examination on the major subject. Examinations will be held on dates fixed by the respective educational committees, but in no case later than January 15 for the fall term, May 15 for the spring term, and August 7 for the summer term. The provisions of the field-of-study plan for undergraduate majors which concern the general examination for the major also apply to the Master's Examination. A candidate who fails to pass the Master's Examination may, in exceptional circumstances and with the specific approval of the division concerned, repeat the examination, but only after the lapse of one term. If he fails a second time, no further opportunity to take the examination will be permitted.

## THE GRADUATE COUNCIL

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Robert Whitney Bolwell, Ph.D., *Chairman of the Graduate Council*

### MEMBERS OF THE COUNCIL

Thomas Benjamin Brown, Ph.D., *Professor of Physics*  
Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*  
Charles Sager Collier, A.B., LL.B., S.J.D., *Professor of Law*  
Joseph Hiram Roe, Ph.D., *Professor of Biochemistry*  
Edward Henry Sehr, Ph.D., *Professor of German*  
Robert Whitney Bolwell, Ph.D., *Professor of American Literature*  
James Henry Taylor, Ph.D., *Professor of Mathematics*  
Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*  
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Donnell Brooks Young, Ph.D., *Professor of Zoology*  
George Gamow, Physics D., *Professor of Theoretical Physics*  
Warren Reed West, Ph.D., *Professor of Political Science*  
Frank Mark Weida, Ph.D., *Professor of Statistics*  
Francis Edgar Johnston, Ph.D., *Professor of Mathematics*  
Leland Wilbur Parr, Ph.D., *Professor of Bacteriology*  
Benjamin Douglass Van Evera, Ph.D., *Professor of Chemistry*  
Mitchell Dreese, Ph.D., *Professor of Educational Psychology*  
Winfred Overholser, A.B., M.D., Sc.D., *Professor of Psychiatry*  
Saul Chesterfield Oppenheim, A.M., J.D., S.J.D., *Professor of Law*  
\*Merle Irving Protzman, Ph.D., *Professor of Romance Languages*  
Florence Marie Mears, Ph.D., *Professor of Mathematics*  
Wood Gray, Ph.D., *Professor of American History*  
Thelma Hunt, Ph.D., M.D., *Professor of Psychology*  
Ira Bowers Hansen, Ph.D., *Professor of Zoology*  
Paul William Bowman, Ph.D., *Professor of Biology*  
Lawson Edwin Yocum, Ph.D., *Professor of Botany*  
Arthur Edward Burns, Ph.D., *Professor of Economics*  
John Withrow Brewer, Ph.D., *Professor of International Law*  
Louis Clark Keating, Ph.D., *Professor of Romance Languages*  
Paul Kenneth Smith, Ph.D., *Professor of Pharmacology*  
Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*  
Charles Rudolph Naeser, Ph.D., *Professor of Chemistry*  
Howard Maxwell Merriman, Ph.D., *Professor of American Diplomatic History*

\* On sabbatical leave 1952-53

George Winchester Stone, Jr., Ph.D., *Professor of English Literature*  
 Fred Salisbury Tupper, Ph.D., *Professor of English Literature*  
 Warren Andrew, Ph.D., M.D., *Professor of Anatomy*  
 Chester Elwood Leese, Ph.D., *Professor of Physiology*  
 Donald Stevenson Watson, Ph.D., *Professor of Economics*  
 Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*  
 Carleton Raymond Treadwell, Ph.D., *Professor of Biochemistry*  
 William Webster Diehl, Ph.D., *Adjunct Professor of Mycology*  
 Antonio Alonso, A.M., *Associate Professor of Spanish*  
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 Curtis Edward Tuthill, Ph.D., *Associate Professor of Psychology*  
 Roderic Hollett Davison, Ph.D., *Associate Professor of European History*  
 Mary Louise Robbins, Ph.D., *Associate Professor of Bacteriology*

#### CONSULTANTS IN RESEARCH

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 Gerhard Colm, Dr. rer. pol., *Economist, Council of Economic Advisers, Executive Office of the President; Public Finance; National Income*  
 Paul Simon Galtsoff, Ph.D., *Senior Biologist, Fish and Wildlife Service, United States Department of the Interior; Invertebrate Zoology*  
 Fred Latimer Hadsel, Ph.D., *Office of German and Austrian Affairs, Division of German Political Affairs, United States Department of State; International Politics and Organization*  
 Henry Furness Hubbard, Ph.D., *Management Consultant, Washington, D. C.; Personnel Psychology*  
 James Manson Hundley, B.S., M.D., *Assistant Chief, Laboratory of Biochemistry and Nutrition; Chief, Section on Physiology and Biochemistry of Nutrition, National Institutes of Health; Physiology of Nutrition*  
 William Crane Johnstone, Jr., Ph.D., *Director of the Office of Educational Exchange, United States Department of State; International Relations: The Far East*  
 Solomon Kullback, Ph.D., *Chief, Research and Development Division, United States Department of Defense; Statistics: Multivariate Analysis*  
 Ladislaus Laszlo Marton, Ph.D., *Physicist, Atomic Physics, Electronics Division, National Bureau of Standards; Electron Optics*  
 Elliott Waters Montroll, Ph.D., *Research Professor, Institute for Fluid Dynamics and Mathematics; Theoretical Physics*  
 Jacques Jacobus Polak, Ph.D., *Assistant Director, Research Department, International Monetary Fund; International Economics*



- Waldo Lasalle Schmitt, Ph.D., *Head Curator of Zoology, United States National Museum; Invertebrate Zoology: Crustacea*
- Leonard Peter Schultz, Ph.D., *Curator of Fishes, United States National Museum; Vertebrate Zoology: Ichthyology*
- Lyman Bradford Smith, Ph.D., *Associate Curator, Division of Phanerogams, Department of Botany, Smithsonian Institution; Taxonomy*
- Alberto Vázquez, Ph.D., *Foreign Affairs Specialist, Division of Research for American Republics, Office of Intelligence Research, United States Department of State; Latin American Literature*
- Erwin Paul Vollmer, Ph.D., *Research Physiologist, Naval Medical Research Institute; Endocrinology*
- Henry Welch, Ph.D., *Chief, Division of Penicillin Control and Immunology, United States Food and Drug Administration; Antibiotics*
- Willard Hull Wright, D.V.M., Ph.D., *Scientist Director, United States Public Health Service; Chief, Zoology Laboratory, National Institutes of Health; Parasitology*
- Ralph Aubrey Young, M.B.A., Ph.D., *Director, Division of Research and Statistics, Board of Governors, Federal Reserve System; International Finance*

## GENERAL INFORMATION

### INTRODUCTORY

The Graduate Council offers a program of advanced study and research leading only to the degree of Doctor of Philosophy. It was established in 1930 to replace the Graduate School which had formerly administered work for the Master's as well as the Doctor's degrees. The Graduate Council provides a doctoral discipline which moves freely across administrative lines dividing departments of instruction or fields of study. It gives personal supervision to a limited number of students, each of whom has his own consultative committee, examinations, and research direction.

### FIELDS OF RESEARCH

The following fields of research have been authorized by the Graduate Council as those in which doctoral investigations and dissertations may be undertaken. The supporting fields of study required of all candidates for the degree of Doctor of Philosophy are specified for each individual student by his Consultative Committee before admission to study under the Council.

This list of fields is subject to such changes as the educational resources

of the University may direct. The prospective student may address preliminary inquiries concerning his research interests to the member of the Council who is in charge of the field, or to the Chairman of the Graduate Council.

### *Anatomy*

(1) Gerontology; (2) Cytology

Andrew

### *Bacteriology*

(1) Intestinal Microbiology; (2) Immunity in Tuberculosis; (3) Problems in Medical Bacteriology with especial reference to Diagnostic Methods and Immunization

Part

(1) Intestinal Microbiology; (2) Immunology: Antigenic Analysis

Antibiotics

Virology

Griffin  
Welch  
Robbins

### *Biochemistry*

(1) Carbohydrate Metabolism; (2) Nutrition (emphasis on vitamins); (3) Pathological Chemistry

Roe

Lipids

Tissue Respiration

Treadwell  
Burk

### *Biology*

Cytology

Bowman

### *Botany*

(1) Mycology; (2) Plant Pathology

Plant Physiology

Taxonomy

Diehl  
Yocum  
Smith

### *Chemistry*

Organic

Inorganic

Physical: Solubilities

Wrenn  
Naeser  
Van Evera

### *Economics*

Economic Theory: (1) Economic Fluctuations; (2) History of Economic Thought

Burns

Economic Policy: (1) Economic Planning; (2) Public Finance

Watson

(1) National Income; (2) Public Finance

International Economics

International Finance

Cohn  
Polak  
Young

### *History*

European: Nationalism

Kayser

European: (1) Diplomatic since 1815; (2) The Modern Near East

Davison

United States: (1) Social; (2) Economic

United States: (1) Diplomatic; (2) Political

Gray  
Merriman

*Law*

Trade Regulation: Trade Practices and Antitrust Laws Jurisprudence	Oppenheim Collier
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*Literatures and Languages*

English: (1) Sixteenth Century Drama; (2) Seventeenth Century Drama	Tupper
English: Eighteenth Century Drama	Stone
American: Literary Nationalism	Bolwell
German: (1) Germanic Philology; (2) Comparative Philology	Sehrt
Romance: (1) Romance Linguistics; (2) Old and Middle French; (3) Old Spanish	Doyle
Romance: Modern Spanish Literature	Alonso
Romance: Latin American Literature	Vázquez
Romance: (1) Sixteenth Century French Literature; (2) Modern French Literature	Keating
Romance: Seventeenth Century French Literature	Protzman

*Mathematics*

Algebra: Finite Groups	Johnston
Geometry: Differential Geometry	Taylor
Analysis: Infinite Series	Mears

*Pharmacology*

(1) Chemotherapy; (2) Drug Metabolism	Smith
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*Physics*

Experimental: Electronics	Brown
Electron Optics	Marton
Theoretical: (1) Relativity; (2) Nuclear; (3) Astrophysics	Gamow
Theoretical: The Solid State	Montroll

*Physiology*

(1) Nutrition and Endocrines; (2) Cardiovascular System	Albritton
(1) Blood Pressure Studies; (2) Neuro-Muscular Studies	Leese
Physiology of Nutrition	Hundey
Endocrinology	Vollmer

*Political Science*

United States: (1) The Legislative Process; (2) Governmental Organization and Administration	West
International: The Far East	Johnstone
International: Comparative Government and Political Theory	Kraus
International: International Politics and Organization	Hadsel
International Law: (1) War and Neutrality; (2) Arbitration	Brewer

*Psychiatry*

Problems of Treatment (M.D. degree required for admission)	Overholser
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*Psychology*

Counseling and Guidance	Dreese
(1) Psychological Measurements; (2) Abnormal Psychology	Hunt



Social Psychology	Tuthill
Personnel Psychology	Hubbard
<i>Statistics</i>	
(1) Theoretical: Probability and Sampling; (2) Applied: Econometrics	Weida
Multivariate Analysis	Kullback
<i>Zoology</i>	
Invertebrate: Morphology and Embryology	Young
Invertebrate: Molluscan Morphology and Physiology	Galtsoff
Invertebrate: Crustacea	Schmitt
Parasitology: Parasitic Protozoa	Wright
Vertebrate: Embryology and Morphogenesis	Hansen
Vertebrate: Ichthyology	Schultz

#### ADMISSION PROCEDURE

For admission the student must possess adequate preparation for advanced study, including satisfactory Bachelor's and Master's degrees, or the equivalent, together with acceptable personal qualities and a capacity for creative scholarship. Previous graduate study should have been in the same general field as that proposed for doctoral study.

Before applying, the student should have personal interviews with the Chairman of the Council and the professor in charge of the central field of study.

After application blank and transcripts of previous academic training have been filed the student must demonstrate his ability to read either French or German in the field of his major interest. Both French and German are required without exception, but only one at the time of admission. The student then meets his personal admission committee which makes its recommendations to the Council. The committee may specify additional prerequisites for the student's doctoral program.

#### STUDY FOR THE COUNCIL FELLOWSHIP EXAMINATION

The discipline for the degree is divided into two stages. The first is made up of study in related fields of learning which support the general area of research concentration, culminating in the Council Fellowship Examination. The second stage is composed of research and investigation of a particular project in a special field and the presentation of such research in a written dissertation, culminating in the Final Examination.

At the beginning of the student's program of study leading to the Council Fellowship Examination, a consultative committee is assigned to direct his work in a group of fields of learning, usually five or six in number, deemed necessary to insure his breadth of knowledge and general competence for continuing independent research, as well as to sup-

port the dissertation project in his central field. Members of the consultative committee will advise the student concerning the scope and content of these supporting fields, and will assist the student in preparation for his examination in them.

This advanced study may be done by attending courses of instruction and graduate seminars, by conference with members of the student's committee, and by independent means. The examination, however, not credits or grades for work done in courses, is the sole test of the student's ability to enter upon the second phase of his doctoral discipline. The examination is a series of written tests usually extending over a period of one week. The major portion of a day is given to each part of the examination covering one of the fields of study on the student's program. If the results of the examination are satisfactory the student is admitted as a Fellow of the Graduate Council, to pursue his specialized study and research under the supervision of a member of the Council.

#### RESEARCH, THE DISSERTATION, AND THE FINAL EXAMINATION

After the student has been inducted as a Fellow of the Council and his research program has been arranged, he is responsible only to the member of the Council who directs his research project. As a Fellow, he may attend general meetings of the Council and participate in the programs of research discussion, and enjoy unrestricted use of all the academic facilities of the University. When necessary, the Graduate Council makes provision for sending the Fellow to some other institution, library, or laboratory for special study in connection with his doctoral investigation.

The doctoral dissertation is required of all Fellows as evidence of ability to perform scholarly research and to interpret its results. An extended summary of the dissertation is published in a periodical volume by the University for distribution to other institutions and libraries. Printed copies of detailed regulations concerning the dissertation are supplied to all candidates for the doctorate.

When the completed dissertation has been approved by the member of the Council in charge of the research project, the Fellow is presented for his final examination. This examination is oral and open to the public. The committee of examiners includes not only members of the Council competent in the research field or in closely related subjects, but also at least two qualified experts from other research institutions brought to the University to participate in the examination. If the fellow satisfies the examining committee concerning the high quality and originality of his contribution to knowledge as well as his mastery of the scholarship and research techniques of his field, the Council recommends him for the degree of Doctor of Philosophy.

## POST-DOCTORAL STUDY

The Council expects its graduates to continue their interest in advanced study and research, and to contribute to its program. All graduates are listed as Associate Fellows and, upon request, will receive notices of all general meetings. They may continue any studies in the University without payment of tuition, and enjoy all University library privileges. Such graduates are required to pay only the usual residence fee in order to establish their active membership in the University. The use of laboratory space and equipment is contingent upon availability, and the cost of all laboratory or special library materials is paid by the graduate. Special arrangements for such privileges must be made with the Chairman of the Council. Postdoctoral work may not be applied toward any degree offered by the University.

## REGULATIONS

*Candidates and Fellows in the Graduate Council are subject to, and are expected to familiarize themselves with, the regulations regarding REGISTRATION, FEES AND FINANCES stated on pages 21-25, and the University regulations stated on pages 38-44.*

## RESIDENCE AND CONTINUOUS REGISTRATION

The Graduate Council expects all students to work on their doctoral programs in residence, although there is no formal regulation concerning the minimum amount of time of resident study either in preparation for the Council Fellowship Examination or as a Fellow of the Council engaged in doctoral research. The student who undertakes either part of the doctoral program on full or limited schedule must, in accordance with University regulations, maintain continuous registration under the Graduate Council even when the Council has granted a leave of absence for study or residence elsewhere. Failure to maintain registration in each term of the academic year disrupts the residence status of the student. In such case, the student must reapply for admission to the Council, under whatever new conditions and regulations are set up by his consultative committee or the member of the Council who directs his research.

## TEACHING FELLOWSHIPS AND GRADUATE ASSISTANTSHIPS

A limited number of Teaching Fellowships are assigned annually to certain departments of instruction open to doctoral students registered under the Graduate Council. An announcement regarding qualifications and application for these fellowships will be sent upon request to the Office of the Graduate Council.



In many departments of instruction graduate assistants are appointed to assist in the academic program. Applicants should inquire directly of the executive officer of the department concerned regarding vacancies and details of appointment.

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A pamphlet describing details of the Graduate Council program, together with a current list of fields of research offered by the Council, will be sent upon request to the Office of the Graduate Council.

## THE SCHOOL OF MEDICINE

### THE FACULTY

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Dean of the School of Medicine*

Thomas Martin Peery, A.B., M.D., *Director of Postgraduate Instruction*

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Joseph Hiram Roe, Ph.D., *Professor of Biochemistry*  
Walter Freeman, Ph.D., M.D., *Professor of Neurology*  
Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Professor of Medicine*  
Errett Cyril Albritton, A.B., M.D., *Fry Professor of Physiology*  
Roger Morrison Choisser, B.S., M.D., *Professor of Pathology*  
Leland Wilbur Parr, Ph.D., *Professor of Bacteriology*  
Winfred Overholser, A.B., M.D., Sc.D., *Professor of Psychiatry*  
Frederick A. Reuter, M.D., *Professor of Urology*  
Harry Ford Anderson, M.D., *Professor of Dermatology and Syphilology*  
Daniel Bruce Moffett, A.B., M.D., *Professor of Otolaryngology*  
Preston Alexander McLendon, B.S., M.D., *Professor of Pediatrics*  
John Parks, M.S., M.D., *Professor of Obstetrics and Gynecology*  
Brian Blades, A.B., M.D., *Professor of Surgery*  
Paul Kenneth Smith, Ph.D., *Professor of Pharmacology*  
James Winston Watts, B.S., M.D., *Professor of Neurological Surgery*  
Warren Andrew, Ph.D., M.D., *Professor of Anatomy*  
Chester Elwood Leese, Ph.D., *Professor of Physiology*  
Thomas McPherson Brown, A.B., M.D., *Professor of Medicine*  
Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*  
Ronald Atmore Cox, A.B., M.D., *Professor of Ophthalmology*  
Thomas Martin Peery, A.B., M.D., *Professor of Pathology*  
William Woodrow Stanbro, M.D., *Professor of Radiology*  
Charles Samuel Wise, B.S., M.D., *Professor of Physical Medicine and Rehabilitation*  
Carleton Raymond Treadwell, Ph.D., *Professor of Biochemistry*  
Charles Seymour Coakley, M.D., *Professor of Anesthesiology*  
Ernest Alfred Watson Sheppard, M.D., C.M., *Clinical Professor of Ophthalmology*  
Radford Brown, M.D., *Clinical Professor of Obstetrics and Gynecology*  
Thomas Carlton Thompson, B.S., M.D., *Clinical Professor of Urology*  
Daniel LeRay Borden, A.M., M.D., *Clinical Professor of Surgery*  
Roscoe Willis Hall, Ph.B., M.D., *Clinical Professor of Psychiatry*  
William Staton Anderson, A.B., M.D., *Clinical Professor of Pediatrics*  
William Herndon Jenkins, M.D., *Clinical Professor of Otolaryngology*

## COMMITTEES •

## Winfred Overholser

## Brian Blades

Victor Frederick Ludewig

John McCallum Evans

## John Parks

Warren Andrew

## Brian Blades

Thomas Martin Peery

## Paul Calabrisi

**Victor Frederick Ludewig**

## Brian Blades

Thomas McPherson Brown

**Calvin Trexler Klopp**

\*The President of the University and the Dean of the School of Medicine are members *ex officio* of all committees.



## COMMITTEE ON SCHOLARSHIP

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 Leland Wilbur Parr                      John Parks  
 Warren Andrew                          Thomas McPherson Brown

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## ADVISORY COMMITTEE ON POSTGRADUATE INSTRUCTION

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 Walter Freeman                          Winfred Overholser  
 Preston Alexander McLendon          John Parks  
 Brian Blades                              Thomas McPherson Brown  
 Clayton Bernard Ethridge

## GENERAL INFORMATION

## INTRODUCTORY

The School of Medicine of The George Washington University was opened in March 1825; of the medical schools now in existence in the United States, it is the eleventh in chronological order of founding. The University Hospital and Dispensary were established in 1898 and made a part of the organization of the School.

The School is a member of the Association of American Medical Colleges and is one of the medical colleges which have been continuously approved by the American Medical Association. The degrees of the School of Medicine are recognized by all state examining boards.

## PLAN OF INSTRUCTION

The work of the School is organized under the following departments: Anatomy; Anesthesiology; Bacteriology, Hygiene, and Preventive Medicine; Biochemistry; Dermatology and Syphilology; Medicine; Military Science and Tactics; Neurology and Neurological Surgery; Obstetrics and Gynecology; Ophthalmology; Otolaryngology; Pathology; Pediatrics;

Pharmacology; Physical Medicine and Rehabilitation; Physiology; Psychiatry; Radiology; Surgery; and Urology.

The salient features in the method of instruction are thorough laboratory training, demonstrations, and clinical teaching, with recitations and lectures to clarify the many problems presented. Courses of clinical instruction are included in the announcements of the clinical departments. The clinical material in the various hospitals and outpatient departments is utilized to the fullest extent for both clinical instruction and laboratory work.

Each of the first three years of the medical curriculum is divided into two terms of sixteen weeks. First-year students begin their study with a one-week orientation program. The senior year includes, in addition to the two sixteen-week terms, an eight-week summer term. One half of the senior class begins the summer term immediately upon completion of the junior year; the other half begins eight weeks later. Within certain limitations, students may elect the period of attendance and the service of assignment. There are no formal classes or examinations during this period.

#### EQUIPMENT AND FACILITIES

*The George Washington University Hospital.*—The hospital, with a capacity of 400 beds, was opened in 1948. This splendid edifice, which is one of the outstanding hospitals in the United States, is completely furnished with the latest and most scientific apparatus and equipment. Its purpose is to supplement existing hospital resources in the District of Columbia for the care of the sick and the injured; the education of physicians, nurses, and technicians; and the advancement of medical knowledge.

The hospital is staffed and controlled by the Faculty of the George Washington University School of Medicine, and it provides excellent clinical material for the instruction of medical students. Virtually every specialty in the fields of medicine and surgery has assigned space and equipment in both the outpatient department and the bed-patient section of this modern institution.

*Medical School Building.*—The building housing the School of Medicine is a five-story structure with lecture rooms, classrooms, students' rooms, and the following laboratories: anatomy, histology and embryology, biochemistry, pathology, and clinical microscopy.

*Laboratories.*—A four-story laboratory building is adjacent to the main medical building. The major laboratories are for bacteriology, hygiene and preventive medicine, and pharmacology. They are fully equipped to enable students to pursue adequately the laboratory courses

and to acquire the technical skill necessary in modern clinical and investigative work.

*Research Building.*—The Research Building houses the George Washington University Cancer Clinic; special laboratories of the National Cancer Institute; and special laboratories concerned with the biochemical, pharmacological, and cytological aspects of cancer research; pharmacological laboratories for the synthesis and study of radiocarbon drugs; and other research laboratories of the Biochemistry, Physiology, and Surgery departments.

*Medical Library.*—The Medical Library contains a selected reference collection of more than 10,000 volumes, currently obtains important new medical works, and regularly receives the principal medical journals.

Inter-library loan service is maintained by close cooperation with other medical and scientific libraries throughout Washington and vicinity.

The Medical Library is open from 9:00 A.M. to 9:00 P.M. each class day, Monday through Friday, and from 9:00 A.M. to 1:00 P.M. Saturday.

The Medical Library maintains a branch in Room 6037-A of the University Hospital for reference, research, and inter-library loan service. It is open from 2:00 to 6:00 P.M. Monday through Friday.

#### GOVERNMENT LIBRARIES AND MUSEUMS

The Library of the Surgeon General's Office of the United States Army is the most complete general medical library in the world. In addition to its great collections of medical works, all leading medical periodicals of the world are available. This Library, as well as the Library of Congress, the Public Library, and the many excellent libraries of the various government departments, is available to students and teachers through a service maintained by the Medical School Library.

The Army Institute of Pathology affords opportunity for studying the conditions met in military and general medicine and surgery. Its collection of anatomical and pathological specimens is unequalled in this country. The Museum of Hygiene, the National Museum, the Smithsonian Institution, the Botanic Gardens, and the Department of Agriculture all afford opportunities for study in Medicine and its allied sciences.

#### CLINICS

The city of Washington, with about a million inhabitants, provides ample clinical material. The University Hospital and Outpatient Department furnish clinical facilities and a large proportion of the materials studied in the courses in pathology and clinical pathology.

*The University Hospital.*—All clinics are under the supervision of the Dean, who is also Medical Director of the Hospital. This insures the



highest possible utilization of available clinical material for teaching purposes and the proper supervision of clinicians and students; it brings the individual student into direct contact with patients and requires him to do, under authoritative supervision, the clinical and laboratory work necessary for diagnosis and treatment; and it permits proper interpretation of the conditions occurring during the progress of cases and promotes the keeping of adequate records. Clinical and clinico-pathological conferences are held in which the history of cases, the physical findings, laboratory records, and the post-mortem pathology, when available, are presented and correlated.

*The Outpatient Department.*—The Outpatient Department has clinical facilities for each Service in the Hospital. Fourth-year students are assigned in rotation by section for clinical instruction in the Outpatient Department.

*Cancer Clinic.*—The facilities of the Cancer Detection Clinic are available to medical students. In addition the diagnosis and treatment of various forms of neoplasms are presented. The results of the treatment of neoplasms are evaluated by follow-up studies.

The Helen L. and Mary E. Warwick Memorial, for cancer and allied diseases, was affiliated with The George Washington University in July 1948. The purposes of this clinic are (1) to provide care for cancer patients, through group consultations within a cancer organization, and (2) to provide training for physicians in the field of oncology.

*Gallinger Municipal Hospital.*—Clinical instruction is available in all branches of medicine. A great wealth of clinical material is afforded in this hospital and by ordinance of the municipal authorities of the District of Columbia, members of the Faculty of this School of Medicine, who are nominated by this University, are assigned approximately one-third of the patients for treatment and clinical study. Third-year students serve their clinical clerkships at this institution.

*Childrens Hospital.*—Clinical instruction in pediatrics, dermatology, and orthopedic surgery.

*Emergency Hospital and Central Dispensary.*—Clinical instruction in medicine, surgery, and the specialties.

*St. Elizabeths Hospital.*—Clinical instruction in mental and nervous diseases, medicine, post-mortem work, and gross pathology. This hospital with 6,800 beds is maintained by the United States Government. The psychiatric clinic is one of the largest in the world.

*Mt. Alto Hospital.*—Clinical instruction in medicine and surgery is available, and fourth year students are assigned in rotation by sections for clinical clerkships.

*Walter Reed General Hospital.*—Clinical instruction is available in all branches of medicine and surgery. Fourth-year students are assigned in rotation by sections for clinical instruction.

**ADMISSION, REGISTRATION, FEES AND FINANCIAL REGULATIONS**

*Students in the School of Medicine are subject to, and are expected to familiarize themselves with, the regulations stated on pages 12-25.*

Registration in the School of Medicine is for a period of one academic year. After the student has entered the courses of instruction he is obligated for the full tuition for the academic year. No part of the tuition will be refunded upon withdrawal or dismissal for any cause. Acceptance by the School of a student's fees does not in any way obligate the School to accept the student for any subsequent year.

A fee of \$5 to defray the costs of completing the records for final consideration for admission must accompany each application. This fee applies to students whose premedical training was completed at this University as well as to students who have not previously attended this University. Fees for each term are \$375, payable in advance.

Because the number of applicants far exceeds the limit of each class, places can be reserved for only those qualified applicants who remit a deposit of \$100 which will be credited toward the tuition of the first term. Under no circumstances will this deposit be refunded.

Credit for work will not be given until, at the completion of a laboratory course, the student has replaced or paid for all articles of equipment or other University property which he has lost, broken, or destroyed. All breakage or loss not directly traceable to an individual student is assessed pro rata.

**COST OF TEXTBOOKS AND STUDENT EQUIPMENT**

The minimum cost of necessary textbooks and student equipment (microscope, drawing materials, glass slides, clinical thermometer, stethoscope, hemocytometer, etc.) is approximately as follows: first year, \$400; second year, \$250; third year, \$90; fourth year, \$80; total \$820.

A fee of \$1 a term is charged for the use (optional) of a locker.

**REGULATIONS**

*Students in the School of Medicine are subject to, and are expected to familiarize themselves with, the general University regulations stated on pages 38-44.*

**ABSENCE**

Absence consists in being away from a class or clinic during a scheduled period, entering after the class or clinic has begun, or leaving before either is dismissed.

Excuse for absence due to sickness must be accompanied by a certificate

signed by the attending physician and must be filed in the office of the Dean.

For every unexcused absence a department will deduct one-half of one per cent from the student's final grade in the subject involved.

#### GRADES

The following grading system is used: *A* (90-100); *B* (80-89); *C* (75-79); *D* (65-74) condition; *E* (below 64) failure; *Inc.*, incomplete. The passing grade in each subject is *C*.

A student who is conditioned in any subject will not be advanced until such condition is removed and then only by authority of the Committee on Scholarship. All conditions must be removed at the next make-up examination period provided for this purpose.

#### EXAMINATIONS

Examinations, which may be written, oral, or practical, will be held at the end of each term.

A student who fails to appear at a regularly scheduled final examination will not be examined until the next regular examination, except by special permission of the Committee on Scholarship. For make-up examinations to remove conditions, a fee of \$5 will be charged for each subject.

All students in the School of Medicine are required to take Part I and Part II of the National Board Examinations, except that students from those states and foreign countries which do not recognize the National Board may be exempted from Part II by action of the Committee on Scholarship.

#### PHYSICAL EXAMINATIONS

All first-year students are given a comprehensive physical examination upon admission to the School of Medicine. The students are informed of the findings and advised regarding such measures as will tend to maintain a high standard of health.

In addition medical students benefit from the complete Tuberculosis Case Finding Program which the School has maintained since 1938-39. Under this program all students receive tuberculin tests. X-ray examinations, and such special attention from chest specialists as is necessary to reduce to a minimum the dangers from tuberculosis to which medical students are believed to be subject. Students are immunized against those diseases for which proven prophylactics exist.



**RESERVE OFFICERS' TRAINING CORPS, U. S. ARMY,  
MEDICAL UNIT**

A Medical Unit of the Reserve Officers' Training Corps is established in this School by authority of the Secretary of the Army, and an officer of the Medical Corps of the Army is detailed to the University for supervision and instruction of the unit.

The instruction is divided into two two-year courses, the basic and the advanced. Each course consists of 90 hours a year—58 hours of prescribed medical instruction given by the Medical School and 32 hours of military medical instruction. Students who satisfactorily complete the basic course may, up to the quota allowed by the Department of the Army, enter the advanced course. Students in the advanced course receive, from the Government, a stipend of approximately \$700.

Students in the advanced course are required to complete the course and to attend a summer training period of six weeks.

A student who successfully completes the course is recommended for a commission in the Medical Corps Reserve. It is the policy of the Department of the Army to give preference to graduates of this course in the selection for Army internship.

Membership in the Unit, which is voluntary, is open to any physically fit male student who is a citizen of the United States and who is, at the time of enrollment, within the following specified age limits: under 29 years for the basic course, under 31 years for the advanced course. Veterans with a minimum of six months' service receive credit for the first year of the basic course; those with a minimum of twelve months' service receive credit for both years of the basic course.

**THE DEGREE OF DOCTOR OF MEDICINE**

Upon the satisfactory completion of the requirements of the School of Medicine, the degree of Doctor of Medicine is conferred.

**REQUIREMENTS FOR THE DEGREE**

Every candidate for graduation with the degree of Doctor of Medicine must be at least twenty-one years of age, of reputable character, and free of all indebtedness to the University. He must have satisfied the admission requirements, completed satisfactorily not less than four academic years of study as a matriculated student in Medicine, completed all required courses, and passed satisfactorily all prescribed examinations.

**COMBINED ARTS AND MEDICINE CURRICULUM**

In order to be recommended for the degree of Bachelor of Arts, the candidate must complete at least ninety credit hours of prescribed college

work (at least thirty credit hours and one year of residence must be completed in Columbian College, the senior liberal arts college), and the first year of the medical curriculum. Upon satisfactory completion of the fourth year of the medical curriculum the student becomes eligible for the degree of Doctor of Medicine.

#### HONORS

A candidate who has completed the four-year medical course with an average grade of *A* may be recommended for graduation "with distinction."

#### INTERN AND RESIDENT TRAINING PROGRAM

Beginning July 1, 1952, The George Washington University Hospital is offering rotating-type internships as classified by the Interassociation Committee on Internships. Twenty-three internships of one year each will be offered: thirteen in the Department of Medicine with emphasis on medicine, ten in the Department of Surgery with emphasis on surgery.

*Rotating Internships, Emphasis on Medicine.*—Interns will be assigned to seven months of General Medicine, two months on the surgical service, and one month each on neuro-psychiatry, pediatrics, and obstetrics and gynecology.

*Rotating Internships, Emphasis on Surgery.*—Interns will be assigned to the surgical service for nine months, to general medicine for two months, and to obstetrics and gynecology for one month.

#### POSTGRADUATE INSTRUCTION

The School of Medicine offers annually a series of short intensive postgraduate courses, varying somewhat from year to year. The series is designed for physicians in practice. The significant advances in the various specialties are presented, together with summaries of older information. A distinguished Guest Faculty supplements the Staff of the Medical School.

The Kellogg Medical Lectures, inaugurated in 1948, are a series of evening lectures and clinics, designed primarily for physicians practicing in Washington and vicinity. They are also attended by the Faculty, post graduate students, and members of the senior class of the School of Medicine.

During the academic year 1950-51 approximately 110 physicians were enrolled in postgraduate courses. For application blanks and further information, address the Director of Postgraduate Instruction, The George Washington University Hospital, Washington 7, D. C.

**MEDICAL TECHNOLOGIST COURSE**

The course for medical technologists consists of twelve consecutive months of didactic and practical work in all phases of clinical laboratory technique. The course meets the full requirements of the Registry of Medical Technologists of the American Society of Clinical Pathologists. Prerequisites are 60 credit hours (two academic years) of college work including required credits in biology and chemistry.

Two classes are accepted each year, one entering in September and the other in March. Enrollment in each class is strictly limited so that personal instruction can be given.

Upon satisfactory completion of the course a certificate is awarded and the candidate is eligible for the certifying examination given by the Registry of Medical Technologists.

For application blanks and further information, address the Director of Laboratories, The George Washington University Hospital, Washington 7, D. C.



## THE LAW SCHOOL

### THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Oswald Symister Colclough, B.S., LL.B., LL.D., *Dean of the Law School*  
Carville Dickinson Benson, A.B., LL.B., S.J.D., *Assistant Dean of the Law School*

Louis Harkey Mayo, B.S., LL.B., *Secretary of the Law School*

---

William Cabell Van Vleck, A.B., LL.B., S.J.D., LL.D., *Professor Emeritus of Law in Residence*

Charles Sager Collier, A.B., LL.B., S.J.D., *Professor of Law*

William Thomas Fryer, A.B., LL.B., J.D., *Professor of Law*

Saul Chesterfield Oppenheim, A.M., J.D., S.J.D., *Professor of Law*

Carville Dickinson Benson, A.B., LL.B., S.J.D., *Professor of Law*

James Forrester Davison, A.B., LL.B., LL.M., S.J.D., *Professor of Law*

James Oliver Murdock, Ph.B., LL.B., *Professor of Law*

Oswald Symister Colclough, B.S., LL.B., LL.D., *Professor of Law*

George Bowdoin Craighill, A.B., LL.B., *Adjunct Professor of Law*

James Ward Morris, A.B., *Adjunct Professor of Law*

James Robert Kirkland, A.B., LL.B., LL.M., *Adjunct Professor of Law*

Bolitha James Laws, LL.B., LL.M., LL.D., *Adjunct Professor of Law*

Conder Caywood Henry, A.B., LL.B., *Adjunct Professor of Law*

John Wingfield Jackson, B.S., LL.B., *Adjunct Professor of Law*

Elliott DeJarnette Marshall, LL.B., *Adjunct Professor of Law*

Frank Hammett Myers, LL.B., LL.M., *Adjunct Professor of Law*

Alvin Leroy Newmyer, LL.B., *Adjunct Professor of Law*

John Albert McIntire, A.B., LL.B., *Professorial Lecturer in Law*

Justin Lincoln Edgerton, A.B., LL.B., *Professorial Lecturer in Law*

Philip Field Herrick, A.B., LL.B., LL.M., *Professorial Lecturer in Law*

Raymond Stevens Smethurst, B.S., LL.B., *Professorial Lecturer in Law*

George Edward Monk, A.B., LL.B., LL.M., *Professorial Lecturer in Law*

*Law*

Charles Sylvanus Rhyne, LL.B., *Professorial Lecturer in Law*

Jennings Bailey, Jr., A.B., LL.B., *Professorial Lecturer in Law*

William Leigh Ellis, A.B., LL.B., LL.M., *Professorial Lecturer in Law*

Norman Alfred Sugarman, A.B., LL.B., *Professorial Lecturer in Law*

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• The President of the University, the Dean and the Assistant Dean of the Law School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, and Assistant Professors constitute the Faculty.

Frederick Bernays Wiener, Ph.B., LL.B., *Professorial Lecturer in Law*  
 Robert McKinney Cooper, Ph.M., J.D., *Associate Professor of Law*  
 Leroy Sorenson Merrifield, A.B., LL.B., M.P.A., *Associate Professor of Law*

John Patrick Burke, A.B., LL.B., *Associate Professor of Law*  
 Herman Israel Orentlicher, A.B., LL.B., *Associate Professor of Law*  
 John Theodore Fey, LL.B., M.B.A., *Associate Professor of Law*  
 David Benson Weaver, A.B., LL.B., *Assistant Professor of Law*  
 Louis Harkey Mayo, B.S., LL.B., *Assistant Professor of Law*  
 \*Arthur Selwyn Miller, A.B., LL.B., *Assistant Professor of Law*  
 Roger Allen Cunningham, B.S., LL.B., *Assistant Professor of Law*  
 Glen Earl Weston, B.S., LL.B., *Assistant Professor of Law*  
 Ernest McClain Jones, B.B.A., LL.B., *Assistant Professor of Law*  
 William Thomas Mallison, A.B., LL.B., *Assistant Professor of Law*  
 William Lester Griffin, A.B., LL.B., LL.M., *Lecturer in Law*  
 John Joseph Czyzak, A.M., LL.B., *Lecturer in Law*  
 Joseph Dach, LL.D., LL.B., *Lecturer in Law*  
 George Nelson Robillard, B.S., LL.B., *Lecturer in Law*  
 John Alexander Kendrick, A.B., LL.B., *Clerk of the Trial Practice Court*  
 Dudley Graham Skinker, LL.B., *Associate Clerk of the Trial Practice Court*

#### COMMITTEES‡

##### THE DEAN'S COUNCIL

Carville Dickinson Benson	William Thomas Fryer
Charles Sager Collier	Leroy Sorenson Merrifield
James Forrester Davison	James Oliver Murdock
Saul Chesterfield Oppenheim	

##### COMMITTEE ON ADMISSIONS

Carville Dickinson Benson, <i>Chairman</i>	
Louis Harkey Mayo	Harold Griffith Sutton

##### COMMITTEE ON GRADUATE STUDIES

James Forrester Davison, <i>Chairman</i>	
Charles Sager Collier	James Oliver Murdock
Saul Chesterfield Oppenheim	

\* On national service leave.

‡ The President of the University and the Dean, the Assistant Dean, and the Secretary of the Law School are members ex officio of all committees.

COMMITTEE ON SCHOLARSHIP

Herman Israel Orentlicher, *Chairman*  
Carville Dickinson Benson                      John Theodore Fey

COMMITTEE ON CURRICULUM

Saul Chesterfield Oppenheim, *Chairman*  
Herman Israel Orentlicher                      Roger Allen Cunningham

LIBRARY COMMITTEE

James Oliver Murdock, *Chairman*  
Robert McKinney Cooper                      David Benson Weaver

GENERAL INFORMATION

LOCATION IN THE NATION'S CAPITAL

The George Washington University Law School, now in its 87th year, is the oldest law school in the District of Columbia. The School took part as a charter member in 1900 in the organization of the Association of American Law Schools and it has been an active member of the Association since that time. It is approved by the Section of Legal Education and Admissions to the Bar of the American Bar Association.

Of special significance is the location of the Law School in the Nation's Capital, the focal point of the law in action, both American and international. The work of the School goes on in this environment, presenting a unique opportunity for observation and study of federal agencies—judicial, legislative, and administrative. The years of residence at law school are years of participation in the life of the community, which, in the case of the George Washington University Law School, is the government of the United States by law. As a consequence, the study of law takes on added meaning, whether the goal be government service or practice, general or specialized.

PROGRAMS OF STUDY

Traditionally the Law School has been national in the geographic distribution of its students. At the present time, holders of baccalaureate degrees from more than three hundred colleges and universities come from the forty-eight states, the territories, and several foreign countries to comprise the student body. As a consequence the programs of study leading to the degrees of Bachelor of Laws and Juris Doctor have been



planned to provide instruction and training for the practice of law wherever the Anglo-American legal system obtains.

Graduate work leading to the degrees of Master of Laws and Doctor of Juridical Science is offered for those desiring further study and research in specialized fields of law.

Continuing legal education for members of the bar who desire to take advanced courses without being candidates for degrees is provided. Lawyers may take courses and seminars for this purpose as unclassified students.

Graduate work is offered also to meet the needs of lawyers who come from countries whose legal systems are not based on the English law. There are two courses of study, one leading to the degree of Master of Comparative Law for the lawyers planning to return to their own countries, and the other leading to the degree of Master of Comparative Law (American Practice) for lawyers planning to remain in this country for the practice of law.

#### FALL, SPRING, AND SUMMER TERMS

The academic year consists of the fall and spring terms. Six terms of residence are required of candidates for the Bachelor of Laws degree in the morning division, eight for those in the evening division. Residence in the summer term, morning or evening, is counted on a proportional basis, the same as like residence during the fall or spring term.

Students may enter Law School at the beginning of any of the three terms.

#### MORNING AND EVENING DIVISIONS

The School maintains morning and evening divisions. The evening division, operating under the same standards as the morning division, provides an opportunity for employed students to obtain a legal education in keeping with American democratic ideals.

#### HOURS OF INSTRUCTION

Morning sections: Monday through Friday, 9:10 A.M. to 1:00 P.M.  
Trial Practice Court: Saturday, 9:30 to 11:30 A.M.

Evening sections: Monday through Friday, 5:50 to 7:40 P.M.

#### THE LIBRARY

The Law School Library of 29,000 volumes contains the official reports of the decisions of the courts of last resort of all the states prior to the National Reporter System and of fourteen states complete to date; the National Reporter System, complete; the reports of the United States

Supreme Court and lower federal courts, and the reports of federal administrative agencies; Shepard's Citations for the units of the Reporter System; the English Reprint and English Law Reports; the United States statutes; the United States Code, Annotated, and the Federal Code, Annotated; reasonably complete sets of statutes of all of the states; the English statutes; the principal English and American digests and encyclopedias; collections of special reports and annotated cases; and the leading textbooks and legal periodicals.

The Library, which is on the fourth floor of Stockton Hall, is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday, 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday. Books and other materials do not circulate and must be used in the library.

#### THE LAW REVIEW

*The George Washington Law Review*, published by the University, is edited and managed by students of the Law School under the supervision of Faculty advisers. It is devoted exclusively to state and federal public law. The location of the University in the National Capital, where the primary sources of federal public law may be observed in operation, affords an unexcelled opportunity for specialization in this field.

The *Review* organization includes a faculty editor-in-chief, an associate faculty editor, a faculty board of advisory editors, a board of departmental advisory editors, and a board of student editors. The student editors are chosen each year on the basis of scholarship.

#### THE STUDENT BAR ASSOCIATION

Every student in the Law School is a member of the Student Bar Association. This is organized to enable students to become better acquainted with problems of the profession, to foster professional ideals, and to bring about closer contact with members of the profession engaged in active practice of the law.

The work of the Student Bar Association is carried on by various committees and by group and general meetings of a professional and social nature. From time to time lectures are given by outstanding authorities on legal and professional problems.

The Placement Committee of the Student Bar Association works in close cooperation with the Secretary of the Law School and the University Placement Office in assisting graduates to find employment.

#### ORDER OF THE COIF

The Order of the Coif, a national honor society with chapters in thirty-nine law schools, aims "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of schol-

arship." The George Washington University Chapter was established in 1926. Members are elected each year from the highest-ranking 10 per cent of the graduating class of the Law School.

#### REGULATIONS

*Students in the Law School are subject to, and are expected to familiarize themselves with, the following regulations and the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 12-25, and the University regulations stated on pages 38-44.*

#### AMOUNT OF WORK

Students without substantial outside employment may take a program of studies of fourteen hours a week in which the majority of credit hours must be in the morning sections. Students with substantial outside employment must take a limited program of studies not exceeding ten hours a week. Students taking a majority of their classes in the evening may not take more than ten credit hours a week.

#### ATTENDANCE

Regular attendance at classes is required and is necessary for successful work. A student who is deficient in class attendance in any subject may, by action of the Faculty, be barred from taking the examination in that subject.

Attendance at classes is limited to students registered to take them for credit. "Auditing" classes is not permitted.

#### RESIDENCE REQUIREMENTS

Attendance in the morning classes for the fall and spring terms is counted as residence for an academic year. Attendance in the evening classes for the fall and spring terms is counted as residence for three-fourths of an academic year. A morning student enrolled in a schedule of less than ten hours a week will receive residence credit in the ratio that the hours passed bear to ten. An evening student enrolled in a schedule of less than six hours a week will receive residence credit in the ratio that the hours passed bear to six. Attendance throughout the summer term, morning or evening, is counted on a proportional basis, the same for residence purposes as like attendance during the fall or spring term.

No student admitted with advanced standing will be recommended for the degree of Bachelor of Laws until he has completed in this School at least one year of residence and passed successfully twenty-eight credit hours with the average required for the degree.



## EXAMINATIONS

Written examinations are held at the end of each course. Every student is required to take the regular examinations in the subjects pursued, unless excused. No excuse for absence will be granted except by the Dean and then only for illness or other emergency. Application for excuse must be made in writing not later than one month after the date of the examination. A grade of *NG* (no grade) will be entered on the record of a student thus excused, and he may take the next regularly scheduled examination in the subject for which the excuse has been granted.

No special examinations will be given; except that, upon written application to the Dean, showing sufficient cause, a candidate for a degree at a convocation before the next regular examination, if he would be entitled to take a postponed examination, may, at the discretion of the Faculty, be given a special examination.

If a student fails to take an examination, a grade of *F* (to be counted as zero) will be recorded, unless the student has obtained the Dean's permission to drop the course according to regulations stated on pages 38 and 39 or to be excused from the examination.

## GRADES

Grades are indicated by the letters *A*, excellent, 85-100; *B*, good, 75-84; *C*, satisfactory, 65-74; *D*, poor, 55-64—below standard for graduation; *F*, failed—below 55; and *NG*, no grade—student excused from failure to take regularly scheduled examination. See "Examinations" above, for grade upon failure to take an examination. The grades *A*, *B*, *C*, and *D* mean that the work has been completed and credit given for the subjects. *F*, failed, means that no credit will be given. To obtain credit the student must repeat the subject; but a student who has obtained an average of *C* in the work of the term just completed and the preceding term and received a grade of *F* in only one subject during those terms may take the next regular examination in that subject or a special examination at the end of the next term if he is a candidate for a degree at a convocation before the next regular examination. If on such reexamination he receives a passing grade he will be given credit in the subject. Both grades are recorded.

## EXCLUSION AND PROBATION FOR POOR SCHOLARSHIP

*Candidates for the Degrees of Bachelor of Laws and Juris Doctor.*—A student who in one term, or two successive terms, fails in courses aggregating eight or more credit hours will be excluded, except that if currently registered he will be permitted to complete the work of the

term. Such a student is not eligible thereafter to be registered in the Law School or to attend classes. While excluded he may, however, with the consent of the Faculty, be admitted to the next regular examinations in those subjects in which he has made a grade below passing, and if he receives a grade of passing in those subjects with an average sufficient to make his cumulative average not less than *C*, he will be reinstated.

A student not subject to exclusion under the foregoing rule who at any time fails to maintain a cumulative average of at least *C*, will be placed on probation. A student on probation may at the discretion of the Dean be required to reduce his program of study. If a student on probation does not, by the end of the second term following that in which his average has fallen below *C*, receive grades sufficient to give him a cumulative average of at least *C*, he will be excluded, except that if currently registered he will be permitted to complete the work of the term.

The cumulative average of a student includes all the grades in all the subjects taken while he is in the Law School as a candidate for a particular degree. When a subject is repeated or a reexamination is taken, both the first grade and the subsequent grade or grades are counted in the cumulative average.

In special cases in which a student who has been excluded can clearly demonstrate that he has the capacity to pursue the study of law with a definite likelihood of success, his low grades being due to special circumstances beyond his control, such student may be readmitted by the Faculty subject to such conditions as the Faculty may impose.

*Candidates for Graduate Degrees.*—A candidate for one of the graduate degrees whose work is not satisfactory in the opinion of the Faculty, taking into consideration the requirements and standards for the degree, may, by action of the Faculty, be excluded at the end of the term for which he is currently registered.

*Unclassified Students.*—An unclassified student whose work is not satisfactory in the opinion of the Faculty may, by action of the Faculty, be excluded at the end of the term for which he is currently registered.

#### CLASSIFICATION OF STUDENTS

Students are divided into classes on the completion of credit hours as follows: first year, one through twenty-eight; second year, twenty-nine through fifty-six; third year, fifty-seven or more.

#### THE DEGREES OF BACHELOR OF LAWS AND JURIS DOCTOR

The programs of study leading to the degrees of Bachelor of Laws and Juris Doctor are addressed to the development and application of legal principles, skills, and ideals which are indispensable to the equip-



ment of a lawyer for professional responsibility and leadership in modern society. They include, first and foremost, the traditional core of legal education, namely, the study of legal materials—judicial, statutory, and administrative—and instruction in the technique of their use. These programs include the study of the nature and purpose of law, the history of the Anglo-American legal system, and the history and standards of the legal profession; practice in the skills of legal research and legal writing; elementary training in trial practice; and, through the medium of seminars, experience in group handling of legal problems.

#### REQUIREMENTS FOR THE DEGREES

##### Bachelor of Laws

To be recommended for the degree of Bachelor of Laws (LL.B.) the student must have completed a residence period of not less than three academic years (four years for evening students) and eighty credit hours, with a cumulative average of at least *C*.

##### Juris Doctor

The degree of Juris Doctor (J.D.) is conferred as a recognition of the completion at the George Washington University Law School, with high rank, of the required course for the Bachelor's degree, including experience in research and legal authorship. To be recommended for this degree the student must have completed: (1) a residence period of not less than three academic years (four years for evening students) in the Law School; (2) eighty credit hours with a cumulative average of at least *B* including one of the following courses: Comparative Law, Jurisprudence, or one of the graduate seminars; and (3) one year of acceptable service on the board of student editors of *The George Washington Law Review*, election to which is subject to regulations laid down by the Faculty. Students taking the combined Arts and Law or Engineering and Law courses are not eligible for this degree.

##### HONORS

The degree of Bachelor of Laws or of Juris Doctor "with distinction" will be awarded students who obtain a cumulative average of *A* in the work for the degree.

##### CURRICULUM

*Required and Elective Courses.*—A program of required and elective courses has been developed in order to assure coverage of the basic courses as well as to allow a degree of flexibility to meet the diverse interests of students. All first-year courses, four second-year courses,



and one third-year course are required, leaving a total of thirty-two hours of electives. In general, second-year students are restricted to second-year electives but in appropriate cases the taking of third-year electives will be approved. Similarly, specially qualified third-year students may secure approval to take graduate courses.

*Practice and Trial Practice Court.*—Classroom instruction is conducted in pleading and procedure, trial and appellate practice, and evidence. This instruction includes grounding in the principles of the Federal Rules of Civil Procedure and the Federal Rules of Criminal Procedure. In addition, each senior student is required to participate in the work of the Trial Practice Court, which includes the trying of cases as junior counsel and as senior counsel. A special section of the court is devoted exclusively to the trial of patent cases. Experience in preparing and arguing appellate court cases is available through the Case Club Competition.

*Patent Law.*—Students interested in patent law should take, in addition to Torts II—Unfair Trade Practices, the following group of courses: Substantive Patent Law, Patent Office Practice, Patent Trial Practice Court, and Federal Anti-Trust Laws.

*Curriculum.*—Following is the curriculum for students beginning in the fall term. Adjustments are made to meet the needs of students beginning in the spring and summer terms.

### Morning Division

FIRST YEAR			
FALL TERM	Credit Hours	SPRING TERM	Credit Hours
Legal Method and Legal System..	4	Real Property .....	4
Contracts .....	4	Contracts .....	3
Personal Property .....	2	Torts I .....	4
Criminal Law .....	4	Constitutional Law .....	4
Total.....	14	Total.....	14
SECOND YEAR			
FALL TERM	Credit Hours	SPRING TERM	Credit Hours
Civil Procedure .....	4	Evidence .....	4
Torts II—Unfair Trade Practices..	4	Conveyances and Wills .....	4
Electives .....	6	Electives .....	6
Total.....	14	Total.....	14
THIRD YEAR			
FALL TERM	Credit Hours	SPRING TERM	Credit Hours
Trial Practice Court.....	2	Trial Practice Court.....	2
Electives .....	10	Electives .....	10
Total.....	12	Total.....	12

## Evening Division

## FIRST YEAR

FALL TERM	Credit Hours	SPRING TERM	Credit Hours
Legal Method and Legal System..	4	Torts .....	4
Contracts .....	4	Contracts .....	2
Personal Property .....	2	Criminal Law .....	4
Total.....	10	Total.....	10

## SECOND YEAR

FALL TERM	Credit Hours	SPRING TERM	Credit Hours
Real Property .....	4	Constitutional Law .....	4
Civil Procedure .....	4	Evidence .....	4
Electives .....	2	Electives .....	2
Total.....	10	Total.....	10

## THIRD YEAR

FALL TERM	Credit Hours	SPRING TERM	Credit Hours
Torts II—Unfair Trade Practices..	4	Conveyances and Wills .....	4
Electives .....	6	Electives .....	6
Total.....	10	Total.....	10

## FOURTH YEAR

FALL TERM	Credit Hours	SPRING TERM	Credit Hours
Trial Practice Court.....	2	Trial Practice Court.....	2
Electives .....	8	Electives .....	8
Total.....	10	Total.....	10

## GRADUATE PROGRAM

## DEGREES OF MASTER OF LAWS AND DOCTOR OF JURIDICAL SCIENCE

The administration of justice under law is a matter so vast and complex that some graduates feel the need for further study in order to broaden and deepen their understanding of the law. Others desire to extend their study into rapidly developing specialized fields. Graduate instruction, leading to the degree of Master of Laws, is therefore offered to enable qualified students to attain one or both of these objectives.

The degree of Doctor of Juridical Science is offered for selected students whose aim is to extend still further their studies by pursuing original research in law.

Graduate work is available to evening as well as morning students in order that lawyers in private practice and in government service may engage in advanced study or in original research.

**PROGRAMS OF STUDY FOR FOREIGN LAWYERS**

Two programs of study are provided to meet the needs of lawyers who come from countries whose legal systems are not based on the English law. For such lawyers, whose aim is to acquire an understanding of our system so that they may work intelligently with its materials and practitioners after returning to their own countries, there is available the degree of Master of Comparative Law. For foreign lawyers, however, who wish to remain in this country to practice law, there is available the degree of Master of Comparative Law (American Practice) with an appropriate program of study. With respect to both programs, the students are not assigned to special classes but work in association with the other students in the regular courses, each student's program being adapted to his individual needs.

**NON-DEGREE STUDY: CONTINUING LEGAL EDUCATION**

As a result of changes and expansion in various fields of the law many lawyers pursue graduate study in order to keep abreast of current developments. Consequently, an important part of the graduate program is to provide continuing legal education for members of the bar not desirous of becoming degree candidates. The offerings in the field of governmental regulation provide opportunities for specialization. Although third-year and graduate courses are particularly suitable, first-year and second-year courses may be taken in appropriate cases. Members of the bar taking graduate work in this way enroll as unclassified students.

**RESEARCH IN PUBLIC LAW**

Research in public law is conducted under the supervision of members of the Faculty. The purpose of this research is to furnish means for training specialists in public law, either as government lawyers or as lawyers representing individuals or corporations in cases in which the Government is a party, and to assist in the analysis, clarification, formulation, and improvement of public law, substantive and procedural.

Candidates for the graduate degrees in the Law School and seniors who are eligible for the degree of Juris Doctor may pursue this work. Other students may be admitted with the special permission of the professor in charge.

**REQUIREMENTS FOR THE DEGREES****Master of Laws**

To be recommended for the degree of Master of Laws (LL.M.) the student must have completed a residence period of not less than two terms. Such residence should normally be continuous. All requirements



for the degree must be completed in this Law School and in a period not exceeding two years after registration for work for the degree. The student must have completed with a minimum average of *B* twenty credit hours in courses listed in the law curriculum as graduate courses except that in appropriate cases third-year courses and Torts II—Unfair Trade Practices may be approved for inclusion in the program of study if not previously taken.

#### Master of Comparative Law

The degree of Master of Comparative Law (M.Comp.L.) is for foreign students who intend to return to their countries. To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have completed satisfactorily twenty-four credit hours in approved courses in the curriculum of the Law School or of such other departments of the University as the Faculty of the Law School shall approve.

#### Master of Comparative Law (American Practice)

The degree of Master of Comparative Law, American Practice (M.Comp.L.(Am.Prac.)) is for foreign students who intend to remain in this country. To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have completed twenty-eight credit hours in approved courses in the curriculum of the Law School with a cumulative average of at least *C*.

#### Doctor of Juridical Science

To be recommended for the degree of Doctor of Juridical Science (S.J.D.) the student must have completed a residence period of not less than one academic year. He must have pursued a course of study and research designated by his consultative committee and approved by the Committee on Graduate Studies. At the conclusion of his first year of residence, or at such other time as the Committee on Graduate Studies may set, the candidate must pass an oral examination in those fields of study selected by the consultative committee. This examination shall be conducted by the consultative committee and such other members of the Faculty and qualified experts from other research institutions as may be selected by the Committee on Graduate Studies.

Not later than the date specified in the University calendar the candidate must submit to the Dean one typewritten original and two legible and complete carbon copies of his dissertation in its final form. The dissertation must contain a summary of from 2,500 to 3,000 words in-

serted as an appendix. An additional original typewritten copy of this summary must be submitted for publication. To be acceptable the dissertation must, in the opinion of the examining committee, constitute a substantial contribution to the field of law concerned and be suitable for publication. Additional information will be supplied by the Chairman of the Committee on Graduate Studies.

The summaries of accepted dissertations will be printed in a volume forming a number of the University BULLETIN. The successful candidate for the doctorate is required, before receiving his degree, to pay a fee to cover the expense of printing the summary of his dissertation.

## THE SCHOOL OF ENGINEERING

### THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Martin Alexander Mason, B.S. in Eng., Ing.-Dr., *Dean of the School of Engineering*

---

Thomas Benjamin Brown, Ph.D., *Professor of Physics*

Norman Bruce Ames, M.S., E.E., LL.B., *Professor of Electrical Engineering*

James Henry Taylor, Ph.D., *Professor of Mathematics*

Frank Mark Weida, Ph.D., *Professor of Statistics*

†Merle Irving Protzman, Ph.D., *Professor of Romance Languages*

Benjamin Carpenter Cruickshanks, B.S. in M.E., *Professor of Mechanical Engineering*

Charles Rudolph Naeser, Ph.D., *Professor of Chemistry*

Carl Hugo Walther, B.E., M.C.E., *Professor of Civil Engineering*

Bruce Douglas Greenshields, C.E., Ph.D., *Professor of Civil Engineering*

Martin Alexander Mason, B.S. in Eng., Ing.-Dr., *Professor of Civil Engineering*

Forest Klaire Harris, Ph.D., *Professorial Lecturer in Electrical Engineering*

Roy Colbert, B.S. in M.E., *Professorial Lecturer on Engineering Administration*

Rudolph Michel, M.S. in M.E., *Professorial Lecturer in Mechanical Engineering*

Robert Gay Trumbull, B.S. in C.E., *Associate Professor of Mechanical Engineering*

Wolfram Karl Legner, Ph.D., *Associate Professor of German*

Raymond Pugh Eyman, C.E., *Associate Professor of Civil Engineering*

William Sutton Carley, M.S. in E.E., *Associate Professor of Electrical Engineering*

Averett Howard, A.M., *Associate Professor of English Composition*

‡Charles Edward Greeley, B.S. in M.E., *Associate Professor of Mechanical Engineering*

Haaren Albert Miklofsky, B.C.E., M.Eng., D.Eng., *Associate Professor of Civil Engineering*

• The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Associate Professors, and Assistant Professors constitute the Faculty.

† On sabbatical leave 1952-53.



- James Joseph Kerley, Jr., A.B. in C.E., *Assistant Professor of Civil Engineering*  
 Jerome Strauss Antel, Jr., B.S. in E.E., *Assistant Professor of Electrical Engineering*  
 John Kaye, M.S. in M.E., *Assistant Professor of Mechanical Engineering*  
 Edward Frederick Kelley, M.S., Ae.E., *Lecturer in Mechanical Engineering*  
 Claudius Edmund Bennett, E.E., *Lecturer in Electrical Engineering*  
 Edward French Davis, M.S., *Associate in Mechanical Engineering*  
 Arnold Mayo Kronstadt, B.M.E., *Associate in Mechanical Engineering*

## COMMITTEES •

## THE DEAN'S COUNCIL ‡

1953

Benjamin Carpenter Cruickshanks  
 Raymond Pugh Eyman

1954

William Sutton Carley  
 Bruce Douglas Greenshields

1955

James Henry Taylor  
 Charles Rudolph Naeser

## COMMITTEE ON ADMISSIONS AND ADVANCED STANDING

William Sutton Carley, *Chairman*  
 Robert Gay Trumbull James Joseph Kerley

## COMMITTEE ON SCHOLARSHIP

The Dean of the School, *Chairman*

Thomas Benjamin Brown  
 Benjamin Carpenter Cruickshanks  
 Haaren Albert Miklofsky

James Henry Taylor  
 Carl Hugo Walther  
 John Kaye

## GENERAL INFORMATION

## INTRODUCTORY

The School of Engineering was organized in 1884 as the Corcoran Scientific School. In 1903 that school was combined with Columbian College in the Department of Arts and Sciences. In 1905 the engineering courses were placed under an administrative organization known as the Washington College of Engineering and in 1909 the name was changed to the College of Engineering and Mechanic Arts. In 1914 the name became the School of Engineering.

• The President of the University and the Dean of the School of Engineering are members ex officio of all committees.

‡ Elected by the Faculty.

Courses leading to the degrees of Bachelor of Civil Engineering, Bachelor of Mechanical Engineering, and Bachelor of Electrical Engineering are accredited by the Engineers' Council for Professional Development, the recognized accrediting body of the engineering profession, composed of representatives of the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, American Society for Engineering Education, the American Institute of Chemical Engineers, and the National Council of State Boards of Engineering Examiners.

#### ADVISORY SYSTEM

Every student entering the School of Engineering as a degree candidate is assigned a permanent Faculty adviser—for the purpose of guiding the educational career of the student, providing assistance in his professional development as an engineer, establishing close relations between the Faculty and the student, and furnishing counsel and advice in all phases of the academic career of the student.

Faculty advisers counsel students on their programs of study, the achievement and maintenance of satisfactory scholastic performance, professional development, extra-curricular activity as part of the educational process; and assist the entering student in orientation in the engineering discipline. The adviser represents the student in all cases requiring Faculty action.

A student who has not completed the course work specified for the freshman and sophomore years is required to consult his adviser when so directed by the Dean, and to follow the recommendations of his adviser in all academic matters. Students having junior or senior status are encouraged to consult their advisers. However, advisers may not deny a student entry into any course or activity to which he is entitled under the regulations of the School of Engineering. The Dean acts as temporary adviser to entering or transfer students pending assignment of their permanent advisers. Students are required to obtain their advisers' approval of programs of study at the time of registration.

Students are encouraged to consult their advisers or instructors about college problems at any time; and parents or guardians are invited to consult with the Dean and advisers, in respect to any student problems.

Faculty advisers discharge their counseling duties in accordance with the high principles of their professional responsibility; however, the final responsibility for a student's action lies wholly with the student.

#### REGULATIONS

*Students in the School of Engineering are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION,*

REGISTRATION, FEES AND FINANCES stated on pages 12-25, and the University regulations stated on pages 38-44.

#### AMOUNT OF WORK

Eighteen credit hours, including required physical education, constitute normal full-time work. Nine credit hours constitute normal part-time work.

A full-time student who is not on probation may take ordinarily not more than nineteen credit hours. A student employed more than twenty-four hours a week, who is not on probation, may take ordinarily not more than ten credit hours. A student whose quality-point index is 3.00 or higher may be permitted by the Dean to exceed these limits by not more than two credit hours.

A student previously unemployed who accepts employment subsequent to registration or at any time during a term is required to report that fact immediately to the Dean, in order that adjustments in schedule may be made, if necessary, to bring his program within the Faculty's limitations upon the amount of work to be carried by an employed student.

#### ATTENDANCE

The student is expected to attend every meeting of the course in which he is registered, fully prepared to carry on the work required. The student is held responsible for all work in the course, and all absences must be excused before provision will be made for him to make up the work missed. Excuses for absences from examinations which have been announced in advance can be obtained only by making written application to the instructor in charge of the course.

#### THE BACHELOR'S DEGREES

The Bachelor's degrees are: Bachelor of Civil Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering, and Bachelor of Science in Engineering.

The degree of Bachelor of Science in Engineering may be earned with any of the following options: Business Administration, Chemistry, Economics, Mathematics, Physics, or Statistics.

#### REQUIREMENTS FOR THE DEGREES

##### SCHOLARSHIP

The system of grading and computing scholarship is described in detail on pages 38 and 39.

In order to graduate, a student must have a quality-point index of at least 2.00.



**Probation.**—A student must maintain a quality-point index of at least 2.00, or be placed on probation. A student remains on probation as long as his quality-point index is below 2.00, or until his probation is removed by the Dean's Council.

**Suspension.**—A student who has a quality-point index below 1.00 will be suspended. A student who becomes subject to probation for the third time, whether successive or after an interval, will be suspended.

A student suspended for poor scholarship may apply for readmission after an interval of one calendar year. He must then submit evidence to the Dean's Council that during his absence from the University he has so conducted himself as to indicate that he will profit by readmission. A student suspended twice for poor scholarship will not be readmitted.

The foregoing scholarship regulations are applied when a student has completed a minimum of twelve credit hours of work. Thereafter, the regulations are applied in multiples of twelve credit hours.

#### USE OF CORRECT ENGLISH

Any student whose use of English in any course whatever is deemed unsatisfactory may be reported by the instructor to the Dean's Council. The Council may assign supplementary work, without academic credit, varying in amount with the needs of the student. If the work prescribed is equivalent to a course, the regular tuition fee is charged. The granting of a degree may be delayed for failure to make up any such deficiency in English to the satisfaction of the Dean's Council.

The foregoing regulation is to be interpreted as applying to both written and spoken English.

#### RESIDENCE

One year, or thirty-six credit hours, must be completed in residence in the School of Engineering. Summer term work may be counted in residence, but in no case may the period of residence aggregate less than thirty weeks. Unless special permission is granted by the Dean to pursue work elsewhere, the work of the senior or final year must be completed in residence.

#### CURRICULUM REQUIREMENTS

The satisfactory completion of one of the following curricula of 140 credit hours, exclusive of physical education, is required.

Physical Education is required of all students in the freshman and sophomore years. (See "Physical Education Requirements", page 41.) Variations from the prescribed curricula may be made, with the per-

mission of the Dean's Council. A student desiring to omit a required course and substitute another must make written application to the Dean, presenting satisfactory reasons for the substitution; and written approval must be obtained before registration for the course.

FRESHMAN YEAR (FOR ALL ENGINEERING CURRICULA)		Credit Hours
Chem. 11-12	General Chemistry .....	8
CE 2	Plane Surveying .....	2
Engl. 1-2	Freshman English .....	6
Math. 12	Plane Analytic Geometry .....	3
Math. 19	Differential Calculus .....	3
ME 1	Engineering Survey and Orientation .....	1
ME 3	Mechanical Drawing .....	2
ME 4	Descriptive Geometry .....	2
Phys. Ed.	See page 41 for statement of requirement.	
•Phys. 6 and 7	General Physics .....	6
Total.....		33

ROTC.—Air Force ROTC students substitute Air Science 1-2 (4) for Mechanical Engineering 1 (1) and Physical Education 1-2 (2).

### Bachelor of Civil Engineering

SOPHOMORE YEAR		Credit Hours
CE 21	Analytical Mechanics: Statics .....	2
CE 22	Analytical Mechanics: Dynamics .....	3
CE 23	Higher Surveying .....	4
Econ. 1-2	Principles of Economics .....	6
EE 9-10	Elements of Electrical Engineering .....	6
Math. 20	Integral Calculus .....	3
Phys. Ed.	See page 41 for statement of requirement.	
Phys. 8	General Physics .....	3
Speech 1	Effective Speaking .....	3
Elective	.....	3
Total.....		33

ROTC.—Air Force ROTC students substitute Air Science 3-4 (4) for Elective (3).

JUNIOR YEAR		Credit Hours
CE 25-26	Engineering Materials .....	4
CE 123	Strength of Materials .....	3
CE 136	Hydraulics .....	3
CE 140	Materials and Hydraulics Laboratory .....	2
CE 141	Graphic Statics .....	3
CE 142	Bridge Stresses .....	3
CE 171	Route Surveying .....	3

\* The student who begins Physics with Physics 6 or 7 is subject to a qualifying examination. Credit will be given for Physics 5 if not used for entrance requirements.

CE 187-88	Engineering Contracts and Specifications .....	4
ME 111-12	Thermodynamics .....	6
Elective	.....	6
Total.....		37

ROTC.—Air Force ROTC students substitute Air Science 101-2 (6) for Elective (6).

## SENIOR YEAR

	Credit Hours
CE 147-48	Structural Design ..... 4
CE 149-50	Concrete and Masonry Construction ..... 6
CE 151-52	Statically Indeterminate Structures ..... 4
CE 164	Highway Engineering ..... 3
CE 181-82	Water Supply and Sewerage ..... 6
CE 189-90	Civil Engineering Proseminar ..... 2
ME 141-42	Management Problems ..... 4
Elective	..... 8
<hr/>	
Total.....	37

ROTC.—Air Force ROTC Students substitute Air Science 103-4 (6) for Elective (8).

## Bachelor of Electrical Engineering

## SOPHOMORE YEAR

		Credit Hours
CE 21	Analytical Mechanics: Statics .....	3
CE 22	Analytical Mechanics: Dynamics .....	3
Econ. 1-2	Principles of Economics .....	6
EE 9-10	Elements of Electrical Engineering .....	6
Math. 20	Integral Calculus .....	3
Math. 132	Differential Equations .....	3
ME 13-14	Mechanism .....	4
Phys. Ed.	See page 41 for statement of requirement.	
Phys. 8	General Physics .....	3
Phys. 55	Physical Measurements .....	2
Speech 1	Effective Speaking .....	3
Total.....		35

ROTC.—Air Force ROTC students substitute Air Science 3-4 (4) for Mechanical Engineering 13-14 (4).

## JUNIOR YEAR

JUNIOR YEAR		Credit Hours
1. Communications Option		
CE 25-26	Engineering Materials .....	4
CE 123	Strength of Materials .....	3
EE 105-6	Direct-Current Laboratory .....	4
EE 107	Alternating-Current Circuits .....	3
EE 108	Alternating-Current Machinery .....	3
EE 111-12	Electrical Measurements .....	4
EE 118	Advanced Network Theory I .....	3
EE 120	Advanced Network Laboratory I .....	2
ME 111-12	Thermodynamics .....	6



Phys. 132	Electronics .....	3
Elective .....		3
Total .....		38

ROTC.—Air Force ROTC students substitute Air Science 101-2 (6) for Civil Engineering 26 (2) and Elective (3).

SENIOR YEAR		Credit Hours
CE 136	Hydraulics .....	3
EE 109	Alternating-Current Machinery .....	3
EE 119	Advanced Network Theory II .....	3
EE 121	Advanced Network Laboratory II .....	2
EE 133-34	Alternating-Current Laboratory .....	4
EE 142	Radio Wave Propagation .....	3
EE 148	Applications of Electronic Devices .....	3
EE 150	Electronic Devices Laboratory .....	2
EE 189-90	Proseminar in Electrical Engineering .....	2
Phys. 133	Electronic Circuits .....	3
Elective .....		6
Total .....		34

ROTC.—Air Force ROTC students substitute Air Science 103-4 (6) for Electrical Engineering 189-90 (2) and Elective (6).

JUNIOR YEAR		Credit Hours
2. Power Option		
CE 123	Strength of Materials .....	3
CE 136	Hydraulics .....	3
EE 105-6	Direct-Current Laboratory .....	4
EE 107	Alternating-Current Circuits .....	3
EE 108	Alternating-Current Machinery .....	3
EE 111-12	Electrical Measurements .....	4
EE 139	Illumination Engineering .....	2
ME 111-12	Thermodynamics .....	6
Phys. 132	Electronics .....	3
Elective .....		6
Total .....		37

ROTC.—Air Force ROTC students substitute Air Science 101-2 (6) for Elective (6).

SENIOR YEAR		Credit Hours
CE 25-26	Engineering Materials .....	4
EE 109	Alternating-Current Machinery .....	3
EE 129	Symmetrical Components .....	3
EE 130	Principles of Electric Power Transmission .....	4
EE 133-34	Alternating-Current Laboratory .....	2
EE 138	Industrial Electrical Power Applications .....	3
EE 140	Electrical Design .....	2
EE 189-90	Proseminar in Electrical Engineering .....	2

ME 115	Mechanical Laboratory .....	2
Elective	Business Administration or Economics .....	6
Elective	.....	3
Total.....		35

ROTC.—Air Force ROTC students substitute Air Science 103-4 (6) for Civil Engineering 26 (2), Electrical Engineering 189-90 (2), and Elective (3).

### Bachelor of Mechanical Engineering

#### SOPHOMORE YEAR

		Credit Hours
CE 21	Analytical Mechanics: Statics .....	2
CE 22	Analytical Mechanics: Dynamics .....	3
EE 9-10	Elements of Electrical Engineering .....	6
Math. 20	Integral Calculus .....	3
ME 7	Machine Drawing .....	2
ME 8	Mechanism Drawing .....	2
ME 13-14	Mechanism .....	4
Phys. Ed.	See page 41 for statement of requirement.	
Phys. 8	General Physics .....	3
Phys. 55	Physical Measurements .....	2
Elective	Economics 1-2 or modern language .....	6
Elective	Mathematics .....	3
Total.....		36

ROTC.—Air Force ROTC students substitute Air Science 1-2 (4) and Speech 1 (3) for Physics 55 (2) and Elective (3).

#### JUNIOR YEAR

		Credit Hours
CE 25-26	Engineering Materials .....	4
CE 123	Strength of Materials .....	3
CE 136	Hydraulics .....	3
CE 140	Materials and Hydraulics Laboratory .....	2
CE 141	Graphic Statics .....	3
EE 13-14	Electrical Laboratory .....	4
ME 111-12	Thermodynamics .....	6
ME 141-42	Management Problems .....	4
Speech 1	Effective Speaking .....	3
Elective	.....	3
Total.....		35

ROTC.—Air Force ROTC students substitute Air Science 101-2 (6) for Speech 1 (3) and Elective (3).

#### SENIOR YEAR

		Credit Hours
ME 115-16	Mechanical Laboratory .....	4
ME 126	Methods of Manufacture .....	2
ME 127-28	Machine Design .....	4
ME 129-30	Power Plants .....	6
ME 131-32	Heating, Ventilating, Air Conditioning, and Refrigeration .....	4

*The Colleges, Schools, and Divisions*

ME 133	Combustion Engines .....	2
ME 139	Fluid Dynamics .....	3
ME 140	Dynamics of Machinery .....	3
ME 189-90	Proseminar in Mechanical Engineering .....	2
Elective	.....	6

Total..... 36

ROTC.—Air Force ROTC students substitute Air Science 103-4 (6) for Elective (6).

**Bachelor of Science in Engineering****SOPHOMORE YEAR**

		Credit Hours
CE 21	Analytical Mechanics: Statics .....	2
CE 22	Analytical Mechanics: Dynamics .....	3
EE 9-10	Elements of Electrical Engineering .....	6
Math. 20	Integral Calculus .....	3
ME 13-14	Mechanics .....	4
Phys. Ed.	See page 41 for statement of requirement.	
Phys. 8	General Physics .....	3
Elective	Accounting, Business Administration, or Speech .....	3
Elective	Economics 1-2 or modern language .....	6
Elective	Mathematics or Physics .....	3

Total..... 33

ROTC.—Air Force ROTC students substitute Air Science 3-4 (4) for Mechanical Engineering 13-14 (4).

**JUNIOR YEAR**

		Credit Hours
CE 25-26	Engineering Materials .....	4
CE 123	Strength of Materials .....	3
CE 136	Hydraulics .....	3
CE 140	Materials and Hydraulics Laboratory .....	2
EE 13-14	Electrical Laboratory .....	4
ME 111-12	Thermodynamics .....	6
Elective	Mathematics or Physics .....	3
Elective	.....	12

Total..... 37

ROTC.—Air Force ROTC students substitute Air Science 101-2 (6) for Elective (6).

**SENIOR YEAR**

		Credit Hours
Bus. Adm. 101	Business Organization and Combination .....	3
Bus. Adm. 102	Business Management .....	3
Geol. 21-22	Physical and Historical Geology .....	6
ME 141-42	Management Problems .....	4
Elective	.....	21

Total..... 37

ROTC.—Air Force ROTC students substitute Air Science 103-4 (6) for Geology 21-22 (6) and Elective (1).



The purpose of the Bachelor of Science in Engineering curriculum is to allow a student who has demonstrated his ability to do better than passing work to center his attention upon a group of subjects in which he has special interest. Options may be elected in Business Administration, Chemistry, Economics, Mathematics, Physics, or Statistics. The student's choice of courses in his option must be submitted to the Dean's Council for approval *before* the beginning of the junior year. The student must comply with such requirements as to subjects, schedules, and scholarship as the department concerned may prescribe.

Curricula recommended by the several departments in which options may be elected are available in the Office of the Dean of the School of Engineering for the guidance of students in arranging their programs. Variations from these curricula may be made to satisfy the needs of the exceptional individual student. However, any variation must be approved in writing by the department directing the option and by the Dean's Council.

### THE PROFESSIONAL DEGREES

The professional degree of Civil Engineer, Electrical Engineer, or Mechanical Engineer may be conferred upon a graduate of the School of Engineering who has demonstrated his professional ability.

### REQUIREMENTS FOR THE DEGREE

1. Application may not be made sooner than three years after graduation, and then only if the candidate has had responsible charge of engineering work.

2. A detailed statement of the candidate's experience, references, the degree sought, and the title of the dissertation must be filed with the Dean eight months before the Commencement at which the degree is to be conferred.

Detailed information concerning the preparation of the dissertation may be obtained from the Office of the Dean.

## THE SCHOOL OF PHARMACY

### THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Charles Watson Bliven, M.S., *Dean of the School of Pharmacy*

---

Ralph Dale Kennedy, Ph.D., *Professor of Accounting*  
Ira Bowers Hansen, Ph.D., *Professor of Zoology*  
Lawson Edwin Yocum, Ph.D., *Professor of Botany*  
Charles Watson Bliven, M.S., *Professor of Pharmacy*  
Alan Thomas Deibert, A.M., *Professor of Romance Languages*  
Chester Elwood Leese, Ph.D., *Professor of Physiology*  
Calvin Darlington Linton, Ph.D., *Professor of English Literature*  
Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*  
Carleton Raymond Treadwell, Ph.D., *Professor of Biochemistry*  
George Martin Koehl, A.M., *Professor of Physics*  
Robert Corbin Vincent, Ph.D., *Associate Professor of Chemistry*  
Salvatore Joseph Greco, Ph.D., *Associate Professor of Pharmacy*  
John Watson Schermerhorn, Ph.D., *Associate Professor of Pharmaceutical Chemistry*  
Robert Meyer Leonard, B.S. in Phar., *Assistant Professor of Pharmacology and Pharmacognosy*  
Harold Jerome Bobys, A.B., C.P.A., *Lecturer on Pharmacy Accounting*  
Carson Gray Frailey, A.B., LL.B., *Lecturer on Pharmaceutical Law*  
Charles Byrd Hawthorne, B.S. in Phar., *Lecturer on Pharmacy Management*  
David Lucian Rice, B.S. in Phar., *Instructor in Hospital Pharmacy*

### SEMINAR LECTURERS

William Paul Briggs, M.S., Sc.D., *Professorial Lecturer on Pharmacy Training*  
Carson Peter Frailey, Phar.D., Sc.D., *Professorial Lecturer on Industrial Pharmacy*  
Frederick John Cullen, Phar.G., M.D., *Professorial Lecturer on Drug Manufacture*  
James Albert Horton, LL.B., *Professorial Lecturer on Drug Trade Regulations*

• The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, Assistant Professors, and Instructors constitute the Faculty.

- John Christian Krantz, Jr., Ph.D., *Professorial Lecturer on Pharmaceutical Research*  
 Justin Lawrence Powers, Ph.D., *Professorial Lecturer on Official Drug Standards*  
 Robert Lee Swain, Phar.D., LL.B., *Professorial Lecturer on Contemporary Pharmacy*  
 George Potter Larrick, *Professorial Lecturer on Drug Control*  
 Robert Philip Fischelis, B.S., Phar.D., Sc.D., *Professorial Lecturer on Pharmaceutical Organizations*  
 Daniel Lamont Seckinger, M.D., Dr.P.H., *Professorial Lecturer on Hygiene and Sanitation*

COMMITTEES •

ADVISORY COMMITTEE

- Irving Alexander Tennyson, *Chairman*  
 Howard Bradbury  
 William Paul Briggs  
 Fred Royce Franzoni

THE DEAN'S COUNCIL ‡

- Ira Bowers Hansen  
 George Martin Koehl  
 Salvatore Joseph Greco

COMMITTEE ON SCHOLARSHIP

- Lawson Edwin Yocum, *Chairman*  
 John Watson Schermerhorn  
 Robert Corbin Vincent

GENERAL INFORMATION

INTRODUCTORY

In 1867 the foundation for the National College of Pharmacy was laid by the Apothecaries' Association of the District of Columbia. The College was opened in 1872 and continued until 1906, when it became affiliated with The George Washington University.

The School of Pharmacy is accredited by the American Council on Pharmaceutical Education as a class "A" school. It is a member of the American Association of Colleges of Pharmacy.

Washington offers many opportunities for the study of pharmacy. Not only are the facilities of the government libraries open to the student, but the School of Pharmacy is located only a few blocks from the American Institute of Pharmacy building, in which have been established a pharmaceutical museum and library and research laboratories which have brought to Washington the outstanding men of the profession.

\* The President of the University and the Dean of the School of Pharmacy are members ex officio of all committees.  
 ‡ Elected by the Faculty.



## REGULATIONS

*Students in the School of Pharmacy are subject to and are expected to familiarize themselves with the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES as stated on pages 12-25, and the University regulations stated on pages 38-44.*

Students registered in the Junior College Pharmacy curriculum are subject to the regulations of the Junior College. However, in the professional courses of that curriculum, the attendance requirements of the School of Pharmacy prevail.

## AMOUNT OF WORK

Normal work for any year is that outlined under the head of "Curriculum Requirements", below. A student who wishes to take more than the normal amount of work may do so only with the permission of the Committee on Scholarship, the members of which are guided in their decision by the scholastic record and the extent to which he is employed. A student on probation is limited in the number of credit hours he may carry.

The student is not encouraged to undertake outside employment while attempting a full course of study. A student who maintains a quality-point index of 2.00 or higher for all courses and a quality-point index of 2.50 or higher for pharmacy courses may be granted permission by the Dean to undertake outside employment; the amount of such employment permitted being governed by the scholarship record of the student and the number of credit hours for which he is registered.

A student previously unemployed who accepts employment subsequent to registration or at any time during a term is required to report that fact immediately to the Dean.

## ATTENDANCE

Except by special permission of the instructor, credit will not be given for any pharmacy course if absences, including both lecture and laboratory, exceed in number for each term the hours of credit for the term.

Absence consists of being away from a lecture or a laboratory, entering after the lecture or laboratory has begun, or leaving before either is dismissed.

## EXAMINATIONS BEFORE STATE BOARDS OF PHARMACY

To be eligible for examination before most state boards of pharmacy the applicant is required to present satisfactory evidence of college graduation and in addition must have had one year of practical experience in a pharmacy where prescriptions are compounded.\*

\* Beginning October 1, 1920, the District of Columbia Board of Pharmacy will not recognize practical experience which has been gained concurrently with the School year.

## THE DEGREE OF BACHELOR OF SCIENCE IN PHARMACY

Upon the satisfactory completion of the requirements of the School of Pharmacy, the degree of Bachelor of Science in Pharmacy is conferred.

### REQUIREMENTS FOR THE DEGREE

#### SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 38 and 39.

In order to graduate, a student must have a general quality-point index of at least 2.00. In addition, he must have a quality-point index of at least 2.50 in all pharmacy courses.

*Probation.*—A student must maintain a general quality-point index of at least 2.00, or be placed on probation.

A student remains on probation as long as his general quality-point index is below 2.00; however, a student who has an index of between 1.50 and 2.00 will be considered by the Committee on Scholarship, which may retain him on probation or suspend him.

*Suspension.*—A student who has a general quality-point index below 1.50 will be suspended; however, a student who has an index between 1.40 and 1.50 will be considered by the Committee on Scholarship, which may retain him on probation or suspend him.

A student who is subject to probation for the third time, whether successive or after an interval, will be suspended.

A student suspended for poor scholarship may apply for readmission after an interval of a calendar year. He must then submit evidence to the Dean of the School of Pharmacy, that during his absence from the University he has so conducted himself as to indicate that he will profit by readmission. A student suspended twice for poor scholarship will not be readmitted.

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The foregoing scholarship rules are applied when a student has undertaken a multiple of nine credit hours.

#### CURRICULUM

The Junior College Pharmacy curriculum (see p. 57) comprises the first two years of the four-year pharmacy course. The curriculum is established by the faculties of the School of Pharmacy and the Junior College in accordance with the professional needs, and complies, in so far as possible, with the latter group regarding the general cultural studies.

The laboratory method of teaching is used. Recitation classes are held

in connection with each course in order to provide systematic drill in the subjects.

The curriculum requirements include at least 137 credit hours. At least two credit hours of the elective courses must consist of laboratory work. The following curriculum leads to the degree of Bachelor of Science in Pharmacy.

### Freshman and Sophomore Years

Courses	Did. hrs.	Lab. hrs.	Credit hrs.	Clock hrs.
Courses in the Junior College (see page 57).....	864	704	69	1568

### Junior Year: Fall Term

Courses	Did. hrs.	Lab. hrs.	Credit hrs.	Clock hrs.
Chemistry 151.....	48	48	4	96
Pharmacy 101.....	32	48	3	80
Pharmacy 105.....	32	....	2	32
Pharmacy 107.....	48	....	3	48
Physiology 115.....	48	....	3	48
Physiology 117.....	....	48	1	48
Total.....	208	144	16	352

### Junior Year: Spring Term

Bacteriology 112.....	48	96	4	144
Chemistry 152.....	32	96	4	128
Pharmacy 102.....	32	96	4	128
Pharmacy 106.....	32	....	2	32
Pharmacy 110.....	48	....	3	48
Total.....	192	288	17	480



## Senior Year: Fall Term

• Biochemistry 221.....	32	96	4	128
Pharmacy 103.....	32	96	4	128
Pharmacy 111.....	32	48	3	80
Pharmacy 165.....	48	....	3	48
Elective .....	16	96	3	112
Total.....	160	336	17	496

## Senior Year: Spring Term

Bacteriology 210.....	32	....	2	32
• Biochemistry 222.....	32	96	4	128
Pharmacy 166.....	32	64	3	96
Pharmacy 176.....	32	....	2	32
Pharmacy 178.....	64	....	4	64
Pharmacy 188.....	32	....	....	32
Pharmacy 190.....	16	....	1	16
Pharmacy 192.....	....	48	1	48
Elective .....	16	....	1	16
Total.....	256	208	18	464
Grand total.....	1680	1680	137	3360

## THE DEGREE OF MASTER OF SCIENCE IN PHARMACY

Upon the satisfactory completion of the graduate requirements of the School of Pharmacy, the degree of Master of Science in Pharmacy is conferred.

## DEFINITION OF THE MASTER'S WORK

The study leading to the degree of Master of Science in Pharmacy is a comprehensive survey of one or more of the fields of knowledge embraced by Pharmacy. It is a continuation of the work of the student's undergraduate major and involves a greater acquaintance with scholarly method.

The student must satisfy certain minimum requirements as to previous preparation, residence, ability to read an approved modern foreign (European) language, and courses taken; but these requirements, while

• Students planning to do graduate work may substitute other courses for Biochemistry 221-22 if these courses will be included in the graduate curriculum.

essential, are regarded primarily as qualifying measures. The student's knowledge of his field, as demonstrated by his thesis and by the results of his Master's examination (together with such other examinations involving special skills or techniques as may be required), is the basis upon which the Master's degree is conferred. The foreign language requirement may be waived by faculty action in the instance of students whose field of study at the Master's level may not require such preparation.

### REQUIREMENTS FOR THE DEGREE

#### RESIDENCE

An academic year of residence is required, i.e., completion of a minimum of thirty credit hours of work including the thesis, which is counted as the equivalent of six credit hours of course work. Summer term work may be counted in residence, but in no case may the period of residence aggregate less than twenty-seven weeks. Not more than twelve credit hours (which must be approved in advance by the Dean of the School of Pharmacy) may be taken in another school or division of this University, and such work may not be counted toward both a degree in that school or division and the Master's degree in the School of Pharmacy.

#### AMOUNT OF WORK

A student whose previous preparation in his chosen field has been adequate may complete his requirements, including the thesis, by a minimum of thirty credit hours; others are required to do additional work. First-group courses may not be credited toward the Master's degree. Pharmacy courses numbered below 200 may be credited toward the Master's degree only when registration for graduate credit has been approved at the beginning of the course by the instructor and the Dean of the School of Pharmacy.

#### ADMISSION TO CANDIDACY

In addition to admission requirements stated on page 18, the applicant for admission to candidacy for the Master's degree must be approved by the appropriate representative of the department of Pharmacy and by the Dean.

#### SCHOLARSHIP

A student whose scholarship is considered unsatisfactory may be suspended by the Dean upon recommendation of the staff member under whom the student is working.

### THE MASTER'S THESIS

The thesis may be of a research, expository, critical, or creative type.

The main purpose of a Master's thesis is to demonstrate the student's ability to make independent use of the information and training acquired through his other disciplines, and to furnish objective evidence of his constructive powers in his chosen field. Registration for the thesis must be no later than the beginning of the final year of preparation, unless the professor in charge of the thesis permits registration at the beginning of the final term. The choice of the thesis subject must be approved by the professor in charge of the student's field and recorded in the Office of the Registrar by the date announced in the University calendar. Registration for the thesis is ordinarily made on the basis of three credit hours for two successive terms. In exceptional cases, and with the approval of the professor in charge of the thesis, the student may register for the entire six credit hours during a single term. The type-written thesis in its final form must have the approval of the professor in charge of the student's field and must be presented to the Dean by the student not later than the date announced in the University calendar. Requirements regarding the form of the thesis are stated on page 42, and additional information will be supplied by the Dean.

Payment of tuition for the thesis entitles the candidate, during the academic year of registration, to the advice and direction of the member of the faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year may be granted without further tuition payment. If the preparation of the thesis extends beyond the two-year period the student must register for it again, and pay tuition on the same basis as for a repeated course.

### FINAL EXAMINATION

In addition to the course examinations, the candidate must pass a final examination on the thesis and its related fields. This examination may be either written or oral at the discretion of the faculty.

If the thesis is submitted more than three years after the course requirements have been completed, a written examination covering the student's complete program of study will also be required.



## THE SCHOOL OF EDUCATION

### THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
James Harold Fox, A.M., Ed.D., *Dean of the School of Education*

---

Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*

Ruth Harriet Atwell, A.M., *Professor of Physical Education for Women*

Frank Mark Weida, Ph.D., *Professor of Statistics*

Mitchell Dreese, Ph.D., *Professor of Educational Psychology*

James Harold Fox, A.M., Ed.D., *Professor of Education*

Thelma Hunt, Ph.D., M.D., *Professor of Psychology*

Frances Kirkpatrick, A.M., *Professor of Home Economics*

William Henry Myers, A.M., *Professor of Physical Education for Men*

Burnice Herman Jarman, A.M., Ed.D., *Professor of Education*

Chester Elwood Leese, Ph.D., *Professor of Physiology*

Helen Bennett Lawrence, A.M., *Professor of Physical Education for Women*

Meredith Chester Wilson, B.S., *Adjunct Professor of Education*

‡Ray LaForest Hamon, Ph.D., *Professorial Lecturer in Education*

Charles Edward Bish, A.M., Ed.D., *Professorial Lecturer in Education*

John Frederick Brougher, A.M., Ed.D., *Professorial Lecturer in Education*

Milo Frederick Christiansen, B.S., M.R., *Professorial Lecturer in Physical Education*

Cecil Wentworth Morgan, Ph.D., *Professorial Lecturer in Physical Education*

‡William Ashby Early, A.M., *Professorial Lecturer in Education*

‡Errett Glenn Featherston, A.M., Ed.D., *Professorial Lecturer in Education*

Kathryn Mildred Towne, A.M., *Associate Professor of Home Economics*

Joseph Henry Krupa, M.S., *Associate Professor of Physical Education for Men*

• The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, Assistant Professors, and Instructors constitute the Faculty.

‡ On leave of absence 1952-53.

Elizabeth Burtner, A.M., *Associate Professor of Physical Education for Women*

Blake Smith Root, A.M., Ed.D., *Associate Professor of Education*

Ralph Windsor Ruffner, A.M., Ed.D., *Associate Professor of Education*

Lewie Woodrow Burnett, A.B., Ed.D., *Associate Professor of Education*

Raymond George Hanken, B.S. in P.E., *Assistant Professor of Physical Education for Men*

Marjorie Tate, A.M., *Assistant Professor of Physical Education for Women*

\*Vincent James DeAngelis, B.S. in P.E., A.M. in Ed., *Assistant Professor of Physical Education for Men*

‡Madaline Kinter Remmlein, Ph.D., J.D., *Lecturer in Education*

LuVerne Crabtree Walker, A.M., *Lecturer in Education*

Helen Barton Goodwin, A.M., *Lecturer in Education*

Florence Mary Lumsden, A.M., Ed.D., *Lecturer in Education*

William Samuel Rumbough, A.M., Ed.D., *Lecturer in Education*

Howard Odin Johnson, A.M., Ed.D., *Lecturer in Education*

Arne William Randall, A.M., *Lecturer in Education*

Raymond Ray Reed, A.M., *Lecturer in Education*

Joseph Bueol Johnson, A.M., Ed.D., *Lecturer in Education*

Mary Ellen Coleman, A.M., *Lecturer in Education*

Mary Louise Collings, A.M., *Lecturer in Education*

#### CONSULTANTS IN RESEARCH

Wesley Earl Armstrong, M.S., Ed.D., *Chief for Teacher Education, U. S. Office of Education*

John Robert Ludington, Ph.D., *Specialist in Industrial Arts, U. S. Office of Education*

#### FIELD SERVICE COORDINATORS

William Wallace Rich, A.M., *Supervisor of Secondary Schools, Arlington County, Virginia*

Helen King Finlay, A.M., *Assistant Principal, Washington-Lee High School, Arlington, Virginia*

\* On national service leave.

‡ On leave of absence 1952-53.

## COMMITTEES \*

## THE DEAN'S COUNCIL ‡

1953

Joseph Henry Krupa  
Blake Smith Root

1954

Raymond George Hanken  
Ralph Windsor Ruffner

1955

Frances Kirkpatrick  
Marjorie Tate

## COMMITTEE ON ADMISSION AND ADVANCED STANDING

The Dean of the School, *Chairman*Harold Griffith Sutton  
Frances Kirkpatrick  
William Henry MyersFrank Mark Weida  
Burnice Herman Jarman  
Ruth Harriet Atwell

## COMMITTEE ON SCHOLARSHIP

Blake Smith Root, *Chairman*

William Henry Myers

Helen Bennett Lawrence

Kathryn Mildred Towne

## GENERAL INFORMATION

## INTRODUCTORY

It is the purpose of the School of Education to prepare teachers, supervisors, and administrators for the higher ranges of educational service and to offer opportunities to teachers of experience to extend their education. The School includes the departments of Education, Physical Education, and Home Economics. It offers both graduate and undergraduate work. Other departments of the University provide general education and subject-matter courses needed for a well-balanced program of teacher education.

The schedule of courses is arranged to meet the convenience of both full-time and part-time students. By attending evening, Saturday, and summer classes, teachers in the schools of Washington and vicinity may complete all the requirements for a degree without giving up their positions.

## REGULATIONS

*Students in the School of Education are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 12-25, and the University regulations stated on pages 38-44.*

\* The President of the University and the Dean of the School of Education are members of office of all committees.  
‡ Elected by the Faculty.



#### AMOUNT OF WORK

A normal program of work for an undergraduate student is fifteen credit hours. A student with a quality-point index of 3.00 or higher may, with the Dean's permission, take eighteen hours. More than eighteen hours may not be taken except by special permission of the Committee on Scholarship.

For an employed student nine credit hours constitute a normal program. A student with a quality-point index of 3.00 or higher for the preceding term may be permitted by the Dean to take twelve or thirteen credit hours.

For a graduate student twelve credit hours, exclusive of the thesis, constitute a normal program. An employed student may not take more than nine credit hours.

#### THE BACHELOR'S DEGREES

Upon the satisfactory completion of the undergraduate requirements of the School of Education, the degree of Bachelor of Arts in Education, Bachelor of Science in Home Economics, or Bachelor of Science in Physical Education is conferred.

The program of work of each student must be approved by a Faculty adviser. Since each student's program of work will be defined by his particular needs, it is important that the student have a clear conception of his major interest in education, and also that he be familiar with the teaching-certificate requirements in the locality in which he expects to teach.

#### REQUIREMENTS FOR THE DEGREES

To be recommended for a degree a student must satisfy the admission, residence, scholarship, and curriculum requirements.

##### RESIDENCE

Candidates for the Bachelor's degrees must complete satisfactorily at this University a minimum of thirty credit hours, nine of which, with the approval of the Adviser, may be in the College of General Studies off-campus courses.

For full details concerning continuous registration, see page 42.

##### SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 38 and 39.

In order to graduate, a student must have a quality-point index of at least 2.00.

*Probation.*—An undergraduate student who fails to maintain a quality-point index of at least 2.00 will be placed on probation. A student re-

mains on probation as long as his quality-point index is below 2.00, or until his probation is removed by the Committee on Scholarship.

*Suspension.*—An undergraduate student who fails to pass in half or more than half of his work, based on a minimum of sixteen credit hours, will be suspended.

A student who has been suspended for poor scholarship may within ten days appeal his case to the Committee on Scholarship through the Dean. If the case appears to be remediable and the student appears likely to improve in his scholarship thereafter, the Committee may readmit him on probation. A student who has been denied readmission on probation may petition the Committee on Scholarship through the Dean for readmission after the lapse of a calendar year. A student who has been suspended twice will not be readmitted.

#### CURRICULUM REQUIREMENTS

In any of the following curricula at least thirty credit hours must consist of courses numbered above 100.

##### Bachelor of Arts in Education

Programs leading to the degree of Bachelor of Arts in Education have three main objectives: (1) provision of general educational backgrounds, (2) a functional command of ideas, concepts, knowledges, and skills in one or more teaching fields, and (3) a mastery of basic professional information and skills adequate for a beginning teacher. Since the contents of teaching fields differ in scope and complexity, some programs are longer than others in terms of credit hours. None require less than 126 credit hours of satisfactory work, exclusive of required Physical Education. Normally, 60 credit hours of the total requirement are completed in the Junior College of the University or in an equivalent institution elsewhere. (See "Education", page 58.)

The general educational backgrounds needed by prospective teachers are obtained through: (1) pre-college education, (2) college courses, (3) work experience, (4) leadership activities, (5) participation in student campus activities, and (6) utilization of off-campus cultural opportunities.

Teaching-field requirements include satisfactory completion of prescribed academic courses in one or more fields, a satisfactory score on the special field examination of the National Teacher Examinations, and satisfactory completion of the prescribed special methods courses. Programs of study are available in the following fields: art, biology, business education, chemistry, elementary education, English, French, geography, German, history, home economics, mathematics, physics, social studies, Spanish, and speech.

## Bachelor of Science in Home Economics

The curriculum leading to this degree is designed to prepare young women for the important responsibility of home-making. The program can be adapted, however, to meet special requirements in nutrition, dietetics, clothing, and other related fields. Each student must plan her work with the assistance of a Faculty adviser in the Department of Home Economics.

## GENERAL HOME-MAKING

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Home Economics 53.....	3		Home Economics 152.....	3	
Home Economics 72.....	3		Home Economics 171.....	3	
Home Economics 102.....	3		Home Economics 181.....	3	
Home Economics 123.....	3		Home Economics 192.....	3	
Physiology 115.....	3		Home Economics 197-98.....	6	
Electives .....	15		Psychology 29.....	3	
			Electives .....	9	
Total.....	30		Total.....	30	

## Bachelor of Science in Physical Education for Men

There are three curricula leading to this degree. The Single-Major and Subject-Certification Teacher's Course is designed to prepare students for teaching positions in smaller schools where it is necessary to teach an academic subject in addition to physical education. The Single-Major Teacher's Course prepares for the teaching of physical education in the larger schools. The Physical Education and Recreation Course has been planned for those who wish to be prepared to direct programs of recreation in addition to the teaching of physical education.

The minimum requirements for this degree are sixty-six credit hours, distributed as follows:

## SINGLE-MAJOR AND SUBJECT-CERTIFICATION TEACHER'S COURSE

The minimum requirements for this degree are twenty-one credit hours in education, twenty-four credit hours in physical education, eighteen credit hours in an academic teaching field, and three credit hours in physiology, distributed as follows:

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Education 109-10.....	6		Education 131.....	3	
Education 121-22.....	6		Education 133-34.....	6	
Physical Education 102.....	1		Physical Education 115-16.....	4	
Physical Education 103.....	3		Physical Education 122.....	3	
Physical Education 105.....	3		Physical Education 131.....	3	
Physical Education 113-14.....	4		Physical Education 138.....	3	
Physiology 115.....	3		Academic teaching field.....	11	
Academic teaching field.....	7				
Total.....	33		Total.....	33	



**SINGLE-MAJOR TEACHER'S COURSE**

The minimum requirements for this degree are twenty-one credit hours in education, twenty-eight credit hours in physical education, three credit hours in physiology, and fourteen credit hours of electives:

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Education 109-10.....	6		Education 131.....	3	
Education 121-22.....	6		Education 133-34.....	6	
Physical Education 102.....	1		Physical Education 105.....	3	
Physical Education 103.....	3		Physical Education 122.....	3	
Physical Education 109-10.....	4		Physical Education 131.....	3	
Physical Education 113-14.....	4		Physical Education 138.....	3	
Physical Education 115-16.....	4		Electives.....	12	
Physiology 115.....	3				
Electives.....	2		Total.....	33	
Total.....	33				

**PHYSICAL EDUCATION AND RECREATION COURSE**

The minimum requirements for this course are sixty-six credit hours, distributed as follows:

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Education 109.....	3		Education 131.....	3	
Education 121-22.....	6		Education 133-34.....	6	
Physical Education 48.....	2		Physical Education 103.....	3	
Physical Education 102.....	1		Physical Education 122.....	3	
Physical Education 109-10.....	4		Physical Education 131.....	3	
Physical Education 113-14.....	4		Physical Education 138.....	3	
Physical Education 132.....	1		Physical Education 161.....	3	
Physical Education 151-52.....	6		Physical Education 162.....	3	
Electives.....	6		Electives.....	6	
Total.....	33		Total.....	33	

**Bachelor of Science in Physical Education for Women**

There are three curricula leading to this degree. The Dual-Major Teacher's Course is designed to prepare students for teaching positions in smaller schools where it is necessary to teach an academic subject in addition to physical education. The Single-Major Teacher's Course prepares for the teaching of physical education in the larger schools. Within this course there is opportunity for specialization in dance, sports, or correctives. The Physical Education and Recreation Course has been planned for those who wish to be prepared to direct programs of recreation in addition to the teaching of physical education.

The minimum requirements for this degree are sixty-six credit hours, distributed as follows:

#### DUAL- OR SINGLE-MAJOR TEACHER'S COURSE

The student desiring to prepare herself to teach another subject in addition to Physical Education for Women may do so by choosing her elective hours from one subject-matter field with the advice of the Dean of the School of Education. Relevant work completed in the Junior College may be counted in this subject-matter field.

JUNIOR YEAR	Credit Hours	SENIOR YEAR	Credit Hours
Education 109-10.....	6	Education 121-22.....	6
Physical Education 58.....	2	Education 133-34.....	6
Physical Education 101.....	3	Physical Education 113-14.....	4
Physical Education 102.....	1	Physical Education 121.....	3
Physical Education 103.....	3	Physical Education 122.....	3
Physical Education 105-6.....	6	Physical Education 131.....	3
Physical Education 115.....	2	Physical Education 138.....	3
Physical Education 118.....	2	Electives.....	6
Physical Education 132.....	1		
Physiology 115.....	3	Total.....	34
Electives.....	1		
Total.....	32		

#### PHYSICAL EDUCATION AND RECREATION COURSE

JUNIOR YEAR	Credit Hours	SENIOR YEAR	Credit Hours
Education 121-22.....	6	Education 133-34.....	6
Physical Education 48.....	2	Physical Education 103.....	3
Physical Education 58.....	2	Physical Education 113-14.....	4
Physical Education 101.....	3	Physical Education 132.....	1
Physical Education 102.....	1	Physical Education 138.....	3
Physical Education 105-6.....	6	Physical Education 161.....	3
Physical Education 109-10.....	4	Physical Education 162.....	3
Physical Education 115.....	2	Electives.....	9
Physical Education 118.....	2		
Physical Education 151-52.....	6	Total.....	32
Total.....	34		

#### Prescribed Courses in the Various Teaching Fields

##### ART

One two-term course from the following group.....	Credit Hours
Art 121-22: World History of Art	6
Art 151-52: Modern Art	
Art 161-62: History of Art Criticism	

Two term courses from the following group.....	6
Art 71-72: Introduction to the Arts in America	
Art 101-2: The Design of the Home	
Art 141-42: Interior Decoration	
Art 143: Folk Arts of America	
Two two-term courses from the following group.....	24
Art 67-68: Life and Portrait—Drawing and Painting	
Art 73-74: Still Life and Portrait—Drawing and Painting; Antique Drawing	
Art 165-66: Life and Portrait—Drawing and Painting	
Art 175-76: Composition	
Art 179-80: Sculpture	
Art 183-84: Design and Commercial Art	
Education 141-42: Teaching Art.....	6
Total.....	42

## BIOLOGY

Biology 1-2: Survey in Biology.....	6
Botany 1: Structure and Functions of the Flowering Plant.....	3
Home Economics 152: Nutrition.....	3
Physiology 115: Physiology.....	3
Zoology 1-2: Introduction to Zoology.....	8
Additional courses as approved by the Adviser.....	12
Education 144: Teaching Science.....	3
Total.....	38

## BUSINESS EDUCATION

Accounting 1: Introductory Accounting.....	3
Economics 1-2: Principles of Economics.....	6
Secretarial Studies 51: Business Correspondence.....	3
Additional courses as prescribed in one of the following groups:	
Group 1—Secretarial Studies	
Secretarial Studies 2: Intermediate Typewriting.....	3
Secretarial Studies 12: Intermediate Shorthand and Transcription.....	1
Secretarial Studies 15: Advanced Shorthand, Typewriting, and Transcription.....	3
Secretarial Studies 16: Secretarial Shorthand, Typewriting, and Transcription.....	3
Secretarial Studies 54: Secretarial Practice.....	3
Additional courses from the following as approved by the adviser	
Accounting 2: Introductory Accounting	
Business Administration 101: Business Organization and Combination	
Business Administration 109: Office Management	
Business Administration 141: Principles of Marketing	
Business Administration 151: Retailing	
Economics 121: Money and Banking	
Political Science 127: Commercial Law	
Statistics 52: Mathematics of Finance	
Education 150: Teaching Business Subjects.....	1
Total.....	35



Group 2—Bookkeeping, Business Arithmetic, and Business Law	
Accounting 2: Introductory Accounting.....	3
Business Administration 101: Business Organization and Combination .....	3
Business Administration 102: Business Management.....	3
Political Science 127-28: Commercial Law.....	6
Statistics 52: Mathematics of Finance.....	3
Two of the following courses, as approved by the Adviser.....	6
Accounting 111: Financial Statement Analysis	
Business Administration 121: General Insurance	
Business Administration 131: Business Finance	
Business Administration 138: Investment	
Economics 121: Money and Banking	
Education 150: Teaching Business Subjects.....	2
Total.....	38

Group 3—Distributive Education	
Business Administration 141: Principles of Marketing.....	3
Business Administration 142: Marketing Problems.....	3
Business Administration 145: Sales Management Problems....	3
Business Administration 151: Retailing.....	3
Four of the following courses, as approved by the Adviser.....	12
Business Administration 146: Sales Management	
Business Administration 147: Advertising	
Business Administration 150: Principles of Purchasing	
Business Administration 158: Traffic Management	
Business Administration 175: Introduction to Foreign Trade	
Business Administration 176: Exporting and Importing	
Education 150: Teaching Business Subjects.....	2
Total.....	38

## CHEMISTRY

Chemistry 11-12: General Chemistry.....	8
Chemistry 21: Qualitative Inorganic Analysis.....	4
Chemistry 22: Quantitative Inorganic Analysis.....	4
Chemistry 151-52: Organic Chemistry.....	8
Chemistry 191: History of Chemistry.....	2
One of the following two-term courses.....	8-10
Chemistry 111-12: Physical Chemistry	
Biochemistry 221-22: Biochemistry	
Education 144: Teaching Science.....	3
Total.....	37-39

## ELEMENTARY EDUCATION

Education 105: Child Growth and Development.....	3
Education 113: Elementary School Art.....	3
Education 114: Elementary School Music.....	3
Education 128: Children's Literature.....	3
Science as approved by Adviser.....	12-14
Geography 51: Introduction to Geography.....	3
Geography 52: World Regions.....	3
Physical Education 101: Physical Education in Elementary School..	3
Political Science 9-10: Government of the United States.....	6
Total.....	39-41

## ENGLISH

English 1-2: Freshman English.....	6
English 52: Introduction to English Literature.....	3
English 71-72: Introduction to American Literature.....	6
English 125: The Evolution of Modern Speech.....	3
English 135-36: Shakespeare.....	3
Speech 11: Training the Speaking Voice.....	3
Three of the following term courses with the approval of the adviser..	9
English 126: The Appreciation of Literature	
English 151-52: The Romantic Movement	
English 161-62: Victorian Literature	
English 165-66: The Twentieth Century	
English 171-72: Studies in American Literature	
English 173-74: Major American Poets	
English 176: American Drama	
English 177-78: American Fiction	
English 182: The English Novel	
English 199: Proseminar	
Education 136: Teaching English.....	3
Total.....	39

## FRENCH

French 1-2: First-year French.....	6
French 3-4: Second-year French.....	6
French 9-10: French Conversation and Composition.....	6
French 51-52: Survey of French Literature and Civilization.....	12
Additional courses in French as approved by the Adviser.....	3
Education 146: Teaching Foreign Languages.....	
Total.....	39

## GEOGRAPHY

Geography 51: Introduction to Geography.....	3
Geography 52: World Regions.....	3
Geography 71: Historical Geography of the United States.....	3
Geography 72: Political Geography of the United States.....	6
Geography 103-4: Cartography.....	3
Geography 113: Geomorphology.....	3
Geography 114: Weather and Climate.....	6
Two of the following term courses.....	
Geography 181: Anglo-America	
Geography 183: Northwest Europe	
Geography 184: Mediterranean Region	
Geography 191: Middle America	
Geography 192: South America	
Geography 195: Eastern and Southeastern Asia	
Geography 198: Australia and the Pacific	6
Two of the following term courses.....	
Geography 125: Trade and Transportation	
Geography 126: Strategic Materials	
Geography 127: Industrial Geography	
Geography 128: Agricultural Geography	
Geography 131: Conservation of Natural Resources	

Geography 132: Land Use	
Geography 141: Geography of Settlement	
Geography 142: Urban Geography	
Geography 161: Geography of Soils	
Education 138: Teaching the Social Studies.....	3
Total.....	39

GERMAN

German 1-2: First-Year German .....	6
German 3-4: Second-year German.....	6
German 115-16: Survey of German Literature.....	6
German 121-22: Conversation and Composition.....	6
Additional courses in German as approved by the Adviser.....	12
Education 146: Teaching Foreign Languages.....	3
Total.....	39

HISTORY

History 39-40: The Development of European Civilization.....	6
History 71-72: The Development of the Civilization of the United States .....	6
Six credit hours, as approved by the Adviser, from each of the following groups.....	18
Group 1—American History	
History 171-72: Social History of the United States	
History 173: Representative Americans	
History 174: Economic History of the United States	
History 181-82: Diplomatic History of the United States	
Group 2—European History	
History 119: Thought and Culture of the Western World III: from the Reformation through the Age of Reason	
History 120: Thought and Culture of the Western World IV: Intellectual Aspects of the Modern Age	
History 130: Nationalism	
History 145-46: Russian History	
History 147: Economic History of Europe	
History 148: Oversea Expansion of Europe	
History 149-50: European Diplomatic History	
History 151-52: English History	
Group 3—Latin American History	
History 161-62: Latin American History	
Political Science 175: International Politics in the Western Hemisphere	
Political Science 176: Current Trends in Latin American Politics and Government	
Additional credit hours, as approved by the Adviser from one of the foregoing groups .....	6
Education 138: Teaching the Social Studies.....	3
Total.....	39

MATHEMATICS

Mathematics 3: College Algebra .....	3
Mathematics 6: Plane Trigonometry .....	3



Mathematics 12: Analytic Geometry.....	3
Mathematics 19: Differential Calculus.....	3
Mathematics 20: Integral Calculus.....	3
Mathematics 125: Advanced Algebra.....	3
Mathematics 132: Differential Equations, or	
Mathematics 139: Advanced Calculus.....	3
An additional course in Mathematics as approved by the Adviser....	3
Statistics 52: Mathematics of Finance.....	3
Education 140: Teaching Mathematics.....	3
Total.....	30

## PHYSICS

Physics 5, 6, 7, and 8: General Physics.....	12
Physics 55: Physical Measurements.....	2
Physics 101: Mechanics.....	3
Physics 105: Principles of Electricity.....	3
Physics 106: Optics.....	3
Chemistry Elective—Chemistry 11-12: General Chemistry or	
Chemistry 12-21: General Chemistry and Qualitative Inorganic	
Analysis.....	8
Mathematics 12: Analytic Geometry.....	3
Mathematics 19: Differential Calculus.....	3
Mathematics 20: Integral Calculus.....	3
Six credit hours to be selected from the following.....	6
Physics 102: Heat and Thermodynamics	
Physics 113: Atomic Physics	
Physics 114: Statistical Physics	
Physics 128: Sound	
Physics 132: Electronics	
Physics 155-56: Advanced Physical Measurements	3
Education 144: Teaching Science.....	
Total.....	49

## SOCIAL STUDIES

History 39-40: The Development of European Civilization.....	6
History 71-72: The Development of the Civilization of the United	
States.....	6
Political Science 9-10: Government of the United States.....	12
Two of the following courses.....	
Economics 1-2: Principles of Economics	
Geography 51, 52: Introduction to Geography and World Regions	
Religion 59-60: History of Religion	
Sociology 1-2: Introductory Sociology	
Additional second-group courses as approved by the Adviser from one	
of the following fields: Economics, Geography, History, Political	
Science, Religion, Sociology.....	12
Education 138: Teaching Social Studies.....	3
Total.....	45

## SPANISH

Spanish 1-2: First-year Spanish.....	6
Spanish 3-4: Second-year Spanish.....	6

## The School of Education

147

Spanish 9-10: Spanish Conversation and Composition.....	6
Additional courses as approved by the Adviser.....	18
Education 146: Teaching Foreign Languages.....	3
<b>Total.....</b>	<b>39</b>

### SPEECH

Speech 1: Effective Speaking.....	3
Speech 2: Extempore Speaking.....	3
Speech 11: Training the Speaking Voice.....	3
Speech 32: Oral Reading.....	3
Speech 101: Voice and Phonetics.....	3
Speech 131: Group Discussion and Conference Leadership.....	3
Speech 153: Play Production	
or	
Speech 175: Speech Correction.....	3
Education 136: Teaching English.....	3
One of the following areas of specialization as approved by the adviser:	
Group 1—Public Speaking.....	18
Speech 131: Group Discussion and Conference Leadership	
Speech 136: Public Discussion and Debate	
Speech 143: Persuasion	
Speech 145-46: History and Criticism of Public Address	
Speech 148: Speeches for Special Occasions	
Group 2—Speech Correction.....	18
Speech 175: Speech Correction (if not elected above)	
Speech 176: Speech Correction	
Speech 177-78: Clinical Practice in Speech Therapy	
Speech 180: Speech Pathology	
Speech 182: Introduction to Hearing Problems	
Speech 183-84: Clinical Practice in Hearing Therapy	
Additional courses in English, Physiology, Psychology, or Speech	
to total 12 credit hours, as approved by the Adviser	
<b>Total.....</b>	<b>36 or 37</b>

### PROFESSIONAL EDUCATION

The basic professional information and skills needed by beginning teachers are provided through four one-year courses, two in each of the junior and senior years. Lectures and class discussions are closely coordinated with field work. Instruction is differentiated to meet the needs of those preparing to teach on the various levels—elementary school, junior high school, senior high school, and adult.

#### Professional Courses

Education 109-10: Learning and Teaching.....	6
• Education 111-12: Elementary School Curriculum.....	6
Education 121-22: Society and the School.....	6

\* Not required for those preparing for secondary school teaching.

•Education 131: Common Teaching Skills.....	3
•Education 133-34: Observation and Practice Teaching.....	6
•Education 136 to 150: Special Methods.....	2-6
Total.....	24-27

### THE DEGREE OF MASTER OF ARTS IN EDUCATION

Upon the satisfactory completion of the graduate requirements of the School of Education, the degree of Master of Arts in Education is conferred. This is a professional degree, designed to prepare the student for some particular type of educational service. The program of studies leading to the degree is selected by the candidate and his adviser from the various related departments of the University to give the student an adequate background in his chosen vocational field. For the prospective high school or junior high school teacher this will ordinarily include study in the subject which he is planning to teach as well as in the field of education.

In accordance with the foregoing general pattern of work, graduate programs of study are available in the following fields: (1) school administration—secondary school principalship or elementary school principalship; (2) adult education; (3) secondary education—senior or junior high school; (4) elementary education—intermediate grade or early childhood education; (5) agricultural extension education; (6) curriculum; (7) employee training; (8) guidance; (9) physical education. Programs of work for teachers-in-service are differentiated from those for students without teaching experience. Additional information concerning these programs may be obtained by writing to the Dean.

#### ADMISSION TO CANDIDACY

In addition to admission requirements stated on pages 18-19, the applicant for admission to candidacy for the Master's degree must (1) have a general undergraduate quality-point index of at least 2.50, (2) have demonstrated a genuine interest in teaching, and (3) be in possession of personality traits that give promise of better-than-average success as a teacher. Those desiring to prepare for positions in guidance or administration must have had at least two years of successful teaching experience. Candidates who have had no professional courses must satisfactorily complete the required undergraduate professional courses, including Observation and Practice Teaching, in addition to graduate course requirements.

#### ADVANCED STANDING

Graduate work completed in other accredited institutions of learning may be credited toward the Master's degree, but a minimum of thirty

\* Not required for those preparing for elementary school teaching.



credit hours must be completed at The George Washington University as a matriculated candidate in the School of Education.

Advanced courses completed in excess of the requirements for the Bachelor's degree in this University may be credited toward the Master's degree to the extent of twelve credit hours, provided the work fits in with the student's plan of specialization and is approved in writing by the Dean before being undertaken.

In determining advanced standing at the time of admission or readmission to Master's candidacy at this University, graduate work completed more than three years previously is not counted.

#### REQUIREMENTS FOR THE DEGREE

##### PLANS OF STUDY

Two plans of study lead to the degree of Master of Arts. *Plan 1* requires a minimum of thirty hours of graduate credit, including a thesis carrying six hours of graduate credit. *Plan 2* requires a minimum of thirty-three hours of graduate credit, including a course in *Educational Research Methods and Procedures* carrying three hours of graduate credit.

##### SELECTION OF COURSES

Programs of study under *Plan 1* must include a minimum of twelve credit hours from third group courses in addition to the thesis. Under *Plan 2* a minimum of eighteen credit hours, in addition to the course in *Educational Research Methods and Procedures*, must be from third group courses.

Programs of study must include a minimum of twelve credit hours from courses offered in the Department of Education.

When programs of study include additional academic preparation in one or more teaching fields, undergraduate and graduate courses combined must be at least equivalent to the undergraduate requirements of the Bachelor of Arts degree in the teaching field concerned.

##### RESIDENCE

Candidates for the degree of Master of Arts in Education must complete satisfactorily at this University a minimum of thirty credit hours, nine of which, with the approval of the Adviser, may be in the College of General Studies off-campus courses.

##### THE THESIS

The thesis required under *Plan 1* must conform to standards prescribed by the Committee on Theses. A statement of these standards may be obtained at the Office of the Dean.

The thesis subject must be approved in writing by the candidate's

adviser and recorded in the Office of the Registrar by the date announced in the University calendar. One typewritten original and three legible and complete carbon copies of the thesis in its final form must be presented to the Dean by the candidate not later than the date announced in the University calendar. Requirements regarding the form of the thesis are stated on page 42, and additional information will be supplied by the Dean.

Payment of tuition for the thesis will entitle the candidate, during the academic year of registration, to the advice and direction of the member of the Faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year may be granted without further tuition payment. If the preparation of the thesis extends beyond the two-year period, it must be registered for again, and tuition paid on the same basis as for a repeated course.

#### COMPREHENSIVE EXAMINATION

In addition to the course examinations, the candidate must pass a professional comprehensive examination in two parts: (1) a general examination concerned with an integrated understanding of the major areas in professional education, and (2) a special examination concerned with the candidate's area of specialization.

#### FIVE-YEAR PROGRAM

A candidate entering the School of Education from the Junior College (or with equivalent preparation) may choose a three-year program leading to the degrees of Bachelor of Arts and Master of Arts in Education to be conferred simultaneously. The first year of this combined program will be devoted to teaching-field preparation; the work of the second year will include the Bachelor of Arts junior-year professional courses and a maximum of eighteen credit hours of graduate courses; that of the third and final year, senior-year undergraduate professional courses and the remaining graduate courses needed for the Master's degree. Observation and Practice Teaching to be elected in the third year may not be taken for graduate credit. A quality-point index of at least 2.50 must be attained before beginning the work of the senior year and the program must meet all the requirements of the degrees of Bachelor of Arts and the Master of Arts in Education.

#### THE DEGREE OF DOCTOR OF EDUCATION

The requirements for the degree of Doctor of Education cannot be stated in credit hours, but they consist in general of at least two full years of work beyond the degree of Master of Arts in Education or the equivalent. The programs of study are designed to prepare students

for administrative or supervisory positions, the teaching of education in normal schools or colleges, the teaching of an academic subject in schools or colleges, or for specialized types of educational service. The work is given a practical rather than a theoretical bent, and emphasizes the mastery and application of subject matter, both in the study requirements and in the dissertation. Special emphasis is placed upon the professional success of the candidate.

The candidate's program of study largely depends upon his previous educational background and his professional objective. Opportunities are provided for study leading to the following professional objectives: school superintendent, secondary school principal, supervisor, director of guidance, director of curriculum development, professor of education, and specialist in educational research.

#### QUALIFICATIONS OF THE APPLICANT

The candidate for the degree of Doctor of Education must have completed (1) graduate work in fields prerequisite to his objective, equivalent to that required for the degree of Master of Arts in Education in The George Washington University, and (2) at least three years of successful educational experience.

#### ADMISSION TO CANDIDACY

To be admitted to candidacy for the degree the applicant must be accepted by the Faculty of the School of Education on the basis of an examination conducted by a committee appointed by the Dean. This examination will usually include the following: (1) a written examination involving problems related to the applicant's background; (2) a scholastic-aptitude test; (3) an oral examination.

#### CONSULTATIVE COMMITTEE

If the applicant is accepted as a candidate, his consultative committee will counsel the candidate and guide his work.

The consultative committee, in cooperation with the candidate, will (1) determine the candidate's fields of study, in each of which the candidate must pass a written examination at least eight months before he presents himself for the degree; (2) formulate a list of course requirements and of readings that will assist him in preparing for the examination; and (3) designate the tools of investigation that will be needed by the candidate in the prosecution of his study. These tools may include one or more foreign languages, statistical methods, historical criticism, or any others considered essential by the committee. An examination in the tools designated must be passed by the candidate before he takes his comprehensive examination.



### THE DISSERTATION

When the candidate has satisfied the requirements of his consultative committee, the committee is dissolved. A member of the faculty, in whose field the topic of the dissertation falls, is then appointed to serve as the candidate's adviser on his dissertation and in his field of specialization, and to recommend him to the Dean for the final oral examination when, in his judgment, the candidate's dissertation is acceptable.

Not later than the date specified in the University calendar the candidate shall submit to the Dean of the School of Education four copies of his dissertation—one typewritten original and three legible and complete carbon copies, on official thesis paper—and also a typewritten summary of the dissertation consisting of not more than 2,500 words. Requirements regarding the form of the dissertation are stated on page 42, and additional information will be supplied by the Dean.

The successful candidate is required, before receiving his degree, to pay a fee to cover the expense of printing the summary of his dissertation.

### THE FINAL EXAMINATION

At least three weeks before the degree is to be conferred the candidate must pass an oral examination on his dissertation and on his field of specialization before a committee of the Faculty appointed by the Dean, supplemented by two experts from outside the University appointed by the President. This examination is open to the public and all are privileged to question the candidate. The Dean, or a member of the Faculty designated by him, will preside at this examination.

## THE SCHOOL OF GOVERNMENT

### THE FACULTY AND STAFF OF INSTRUCTION\*

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Arthur Edward Burns, Ph.D., *Dean of the School of Government*  
Joe Lee Jessup, M.B.A., *Assistant Dean in the School of Government*

---

Richard Norman Owens, Ph.D., C.P.A., *Professor of Business Administration*

Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*

Warren Reed West, Ph.D., *Professor of Political Science*

Frank Mark Weida, Ph.D., *Professor of Statistics*

Harold Griffith Sutton, M.S., *Professor of Finance*

Mitchell Dreese, Ph.D., *Professor of Educational Psychology*

Ralph Dale Kennedy, Ph.D., *Professor of Accounting*

Wood Gray, Ph.D., *Professor of American History*

Thelma Hunt, Ph.D., M.D., *Professor of Psychology*

John Albert Tillema, Ph.D., LL.M., S.J.D., *Professor Emeritus of Political Science in Residence*

Arthur Edward Burns, Ph.D., *Professor of Economics*

John Withrow Brewer, Ph.D., *Professor of International Law*

Howard Maxwell Merriman, Ph.D., *Professor of American Diplomatic History*

Donald Stevenson Watson, Ph.D., *Professor of Economics*

Myron Law Koenig, Ph.D., *Professor of American History*

Arlin Rex Johnson, Ph.D., *Professor of Public Administration*

Everett Herschel Johnson, Ph.D., *Professor of Statistics*

Joe Lee Jessup, M.B.A., *Professor of Business Administration*

James Christopher Corliss, A.M., *Adjunct Professor of Inter-American Economics*

Henry Furness Hubbard, Ph.D., *Adjunct Professor of Psychology*

William Crane Johnstone, Jr., Ph.D., *Professorial Lecturer in Political Science*

Gerhard Colm, Dr. rer. pol., *Professorial Lecturer in Economics*

Orton Wells Boyd, A.M., C.P.A., *Professorial Lecturer in Accounting*

Ralph Aubrey Young, M.B.A., Ph.D., *Professorial Lecturer in Economics*

\* The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, and Assistant Professors constitute the Faculty.

- Karl Ernest Stromsem, Ph.D., *Professorial Lecturer on Public Administration*  
 Jacques Jacobus Polak, Ph.D., *Professorial Lecturer in Economics*  
 Joseph Leo Kreiger, M.B.A., *Professorial Lecturer in Business Administration*  
 John Robert Beishline, Ph.D., *Professorial Lecturer in Business Administration*  
 Edwin Lewis, M.B.A., *Professorial Lecturer in Accounting*  
 Carl William Clewlow, A.B., *Professorial Lecturer in Business Administration*  
 Fred Latimer Hadsel, Ph.D., *Professorial Lecturer in Political Science*  
 Edward Campion Acheson, Ph.D., *Associate Professor of Finance*  
 Robert Dale Campbell, Ph.D., *Associate Professor of Geography*  
 Wolfgang Herbert Kraus, Dr.Jur., S.J.D., *Associate Professor of Political Science*  
 Roderic Hollett Davison, Ph.D., *Associate Professor of European History*  
 Merle Talmadge Welshans, Ph.D., *Associate Professor of Business Administration*  
 Albert Raymond Miller, Jr., A.M., *Assistant Professor of Economics*  
 James Norman Mosel, A.M., *Assistant Professor of Psychology*  
 Gordon G. Barnewall, M.B.A., *Assistant Professor of Business Administration*  
 James Coogan, Ph.D., *Assistant Professor of Economics*  
 Walter David Fackler, A.B., *Assistant Professor of Economics*  
 William George Torpey, Ph.D., *Lecturer on Public Administration*  
 Charles Bigelow Stauffacher, A.M., *Lecturer on Public Administration*  
 \*Jonathan Dayton Stoddard, A.M., *Instructor in Political Science*  
 Frederick Charles Kurtz, M.B.A., *Instructor in Accounting*  
 Gordon Edward Bell, M.B.A., *Instructor in Accounting*  
 Ingolf Helgi Elfried Otto, A.M., C.P.C.U., *Associate in Business Administration*

## COMMITTEES ‡

## THE DEAN'S COUNCIL §

1953

Everett Herschel Johnson  
 Roderic Hollett Davison

1954

Wolfgang Herbert Kraus  
 Donald Stevenson Watson

1955

Arlin Rex Johnson  
 Merle Talmadge Welshans

\* On national service leave.

‡ The President of the University and the Dean of the School of Government are members of office of all committees.

§ Elected by the Faculty.



COMMITTEE ON ADMISSION AND ADVANCED STANDING

The Dean of the School, *Chairman*

Harold Griffith Sutton, *Secretary*

Ralph Dale Kennedy

Donald Stevenson Watson

Frank Mark Weida

EXECUTIVE COMMITTEE, BUREAU OF BUSINESS  
AND ECONOMIC RESEARCH

The Dean of the School, *Chairman*

The Assistant Dean

Ralph Dale Kennedy

Donald Stevenson Watson

Everett Herschel Johnson

Merle Talmadge Welshans

COMMITTEE ON GRADUATE STUDIES

The Dean of the School, *Chairman*

The Assistant Dean

Richard Norman Owens

Ralph Dale Kennedy

Donald Stevenson Watson

Everett Herschel Johnson

Merle Talmadge Welshans

GENERAL INFORMATION

INTRODUCTORY

The George Washington University has provided training in both foreign service and governmental theory and administration throughout its history. This was one of its purposes when chartered in 1821. The School of Government was established in 1928 to bring together in various undergraduate and graduate curricula the work offered in foreign service and much of the other academic work in the theory and administration of government.

It is the purpose of the School to give the student an understanding of his responsibilities under the Constitution of the United States in the conduct of public office—domestic and foreign. This can be accomplished not through any single course but through a curriculum which correlates social, economic, political, historical, business, and psychological studies.

The program embraces both graduate and undergraduate work. Curricula leading to the Bachelor of Arts degree are offered in Foreign Affairs, Accounting, Business Administration, and Statistics. Graduate work leading to a Masters' degree is available in each of these fields and in Economic Policy, Public Administration, Personnel Administration, and Vocational Counseling. Graduate study leading to the degree of Doctor of Business Administration is also available (see page 167).

The Foreign Affairs program is broad, covering international political relations, international trade and finance, and regional studies. Its purpose is to equip students, by providing general background and specialized work, for careers in the field of American foreign relations. The diplomatic service of the United States, the several agencies of government with responsibilities in the international field, the international organizations, and American enterprise abroad offer opportunities in this field.

Governmental service requires special training and background in many other subjects, including economic research, statistical investigation, accounting, administrative management, and personnel administration. The academic background for such work is offered in the various curricula of the School and is described below.

#### REGULATIONS

*Students in the School of Government are subject to, and are expected to familiarize themselves with, the regulations concerning Admission, Registration, Fees and Finances stated on pages 12-25, and the University regulations stated on pages 38-44.*

#### AMOUNT OF WORK

A full-time student not on probation may take ordinarily not more than seventeen credit hours. A student employed more than twenty-four hours a week, who is not on probation, may take not more than ten credit hours.

A full-time undergraduate student whose quality-point index is 3.50 or higher may take not more than nineteen credit hours. An undergraduate student employed more than twenty-four hours a week, whose quality-point index is 3.50 or higher, may take up to twelve credit hours.

Exception to these rules will require the approval of the Dean.

#### ATTENDANCE

The student is held responsible for all the work of the courses in which he is registered, and all absences must be excused by the instructor in charge before provision is made for him to make up the work missed.

#### CLASSIFICATION OF STUDENTS

A student who holds an Associate in Arts degree from the Junior College or the equivalent from another accredited institution, and who has registered his choice of one of the prescribed curricula at the Office of the Registrar, is classed as a *junior*. A student who has completed thirty credit hours in the School of Government is classed as a *senior*. A student

who has satisfactorily completed the work for the Bachelor's degrees and who has registered his choice of one of the prescribed fields of study at the Office of the Registrar, is classed as a *master in course*.

#### INDEPENDENT STUDY PLAN

Under the independent study plan a student of demonstrated capacity, with special interest in the subject matter of a course, may be permitted to undertake independent study under the personal direction of an instructor, in accordance with the rules of the division in which the subject falls. Credit under this plan is limited to the specific course-credits as designated in the list of courses of instruction in this CATALOGUE.

#### THE DEGREE OF BACHELOR OF ARTS IN GOVERNMENT

Upon the satisfactory completion of the undergraduate requirements of the School of Government, the degree of Bachelor of Arts in Government, with a designation of the major field of study, is conferred. The major fields are Foreign Affairs, Accounting, Business Administration, and Statistics.

Students who have a special need for integrating courses from several departments or from more than one major field may request approval, by a faculty committee, of a special major program. The same rules and regulations will apply as in the regularly offered majors.

Requirements for the undergraduate major in Economics and Public Administration are stated under the departments of Economics and Political Science, respectively.

#### REQUIREMENTS FOR THE DEGREE

##### SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 38 and 39.

In order to graduate, a student must have the following: (1) a quality-point index in all of his work of at least 2.00, and (2) a quality-point index of at least 2.50 in his major. The major includes the required courses and courses taken in the group options.

**Probation.**—A student must maintain a quality-point index of at least 2.00, or be placed on probation, where he will remain as long as his quality-point index is below 2.00.

**Suspension.**—A student who has a quality-point index below 1.00 or who is placed on probation for a third term, whether successive or after an interval, will be suspended.

For the purpose of these rules, the summer sessions are considered a term.



such as a third year of foreign language, foreign markets, exporting and importing, economic geography, and other courses relating to overseas trade. Each program must be approved by the adviser.

Accounting		Credit Hours
Acct. 101.....	Cost Accounting .....	3
Acct. 111.....	Financial Statement Analysis.....	3
Acct. 121-22.....	Intermediate Accounting .....	6
Acct. 171.....	Auditing .....	3
Bus. Adm. 102.....	Business Management .....	3
Bus. Adm. 131.....	Business Finance .....	3
Econ. 121.....	Money and Banking .....	3
Pol. Sc. 127-28.....	Commercial Law .....	6
		30
Group Option (to be selected from one of the following groups).....		15
Electives (to be selected in consultation with the adviser).....		15
Total.....		60

All Accounting majors must complete the *required* courses listed above. The group options shown below provide specialization in public accounting, commercial and industrial accounting, and governmental accounting and budgeting. Selection of the option and the courses (15 credit hours) to be taken in it must be made in consultation with the adviser.

#### Group I—Public Accounting

This group option is made up of selected courses offered by the departments of Accounting, Business Administration, and Political Science.

#### Group II—Commercial and Industrial Accounting

This group option is made up of selected courses offered by the departments of Accounting, Business Administration, Economics, and Statistics.

#### Group III—Governmental Accounting and Budgeting

This group option is made up of selected courses offered by the departments of Accounting, Business Administration, Political Science, and Economics.

Statistics		Credit Hours
Stat. 115-16....	Principles of Statistical Methods .....	6
Stat. 117.....	Analysis of Variance.....	3
Stat. 118.....	Correlation and the Chi-Square Test.....	3
Stat. 155-56....	Mathematical Probability.....	6
Stat. 157-58....	Mathematical Statistics.....	6
Group Option... (To be selected from one of the following groups).....		24
Electives ..... (To be selected in consultation with adviser).....		12
Total.....		60

#### Group I—Economic and Business

Courses in this group are to be selected by students specializing in economic and business statistics in consultation with the adviser. These courses are offered by the departments of Business Administration, Economics, and Statistics.

#### Group II—Education and Psychology

Courses in this group are to be selected by students specializing in educational

and psychological statistics in consultation with the adviser. These courses are offered by the departments of Psychology and Statistics.

**Group III—Mathematics and the Biological and Physical Sciences**

Courses in this group are to be selected by students specializing in mathematical statistics and statistical applications in the biological and physical science fields. Selections must be made in consultation with the adviser.

**EXAMINATIONS FOR WAIVING CURRICULUM REQUIREMENTS**

A student desiring to omit a required course may take such examination as the department prescribes, and, on passing satisfactorily, he may be relieved of the curriculum requirement in that subject and may qualify for registration in an advanced course. Passing of this examination does not entitle the student to any hours of credit toward the degree. A student desiring to take such examinations should make the request of the Dean and pay the required fee.

The candidate for the Master's degree who is deficient in undergraduate preparation may take a comprehensive examination on his undergraduate major field. Passing of this examination entitles the student to admission without taking specific courses to make up his deficiencies.

In courses taken to satisfy undergraduate deficiencies, the student must maintain at least a 3.00 average to be eligible for admission to graduate study.

**THE MASTERS' DEGREES**

Upon the satisfactory completion of the graduate requirements of the School of Government, one of the following degrees is conferred: (1) Master of Arts in Government with a major in Foreign Affairs, Economic Policy, Accounting, Business and Economic Statistics, or Vocational Counseling; (2) Master of Arts in Public Administration in the fields of General Administration and Governmental Fiscal Administration; (3) Master of Arts in Personnel Administration; (4) Master of Business Administration.

**ADMISSION TO CANDIDACY**

A student is formally recognized as a candidate for the Master's degree only when his application for candidacy has been approved by the Dean. Application is made on a form obtainable at the Office of the Registrar.

A 3.00 average in the undergraduate major is normally required for admission to graduate study.

Candidates for the Master of Arts degree in Foreign Affairs or in Economic Policy must show a reading knowledge (certified by the appropriate language department) of at least one modern foreign language, to be approved by the Dean. Such examination should be taken before

the student begins the second 15 hours of his work. Examinations in modern foreign languages will be given on the dates specified in the University calendar.

#### REQUIREMENTS FOR THE DEGREES

A minimum of thirty credit hours of work, as outlined in the curricula on pages 163-65, must be completed successfully. Variations from these curricula require the permission of the Dean.

No part of the minimum requirements may be taken in any other institution.

A second-group course (numbered 101-200), taken either in the undergraduate or graduate years, may be counted toward the Master's degree only when registration for advanced credit has been approved at the beginning of the course by the Dean and by the officer of instruction, and provided that the student has done such extra work in the course as may be prescribed by the instructor.

Work completed more than three years prior to registration for the Master's degree will be counted only if the candidate successfully passes an examination on the subject matter of the work offered for credit.

In addition to the course examinations, the candidate must pass a comprehensive written examination in his major field. An oral examination on his thesis may also be required.

No work counted toward a Bachelor's degree may be counted toward a Master's degree.

A student who expects to continue his studies for the degree of Doctor of Philosophy after receiving the Master's degree will be assisted in planning his program so that he can qualify for admission to candidacy for the Doctorate.

#### RESIDENCE

No credit is granted for work done in absentia, i.e., without formal instruction, except for the thesis, which may be completed in absentia with the permission of the department concerned.

#### SCHOLARSHIP

A student whose scholarship is unsatisfactory may be suspended by the Dean. Regarding the system of grading, see pages 38 and 39.

#### CURRICULUM REQUIREMENTS

A normal program includes a minimum of twenty-four credit hours of course work and the thesis (six credit hours), to be selected from the courses listed under the chosen major field, and such other courses as may be necessary. Programs should be prepared in advance in consultation with the adviser and submitted to the Dean on the appropriate



form; if the program is not completed at the time of registration this must be attended to not later than one month following registration.

### THE THESIS

Students who plan to complete work for a Master's Degree in one year should register for the thesis at the beginning of the year; otherwise the thesis should be registered for not later than the beginning of the final year. The choice of the thesis subject must be approved by the professor in charge and recorded in the Office of the Registrar by the date announced in the University calendar. The typewritten thesis in its final form must have the approval of the professor in charge and must be presented to the Dean by the student not later than the date announced in the University calendar. Requirements in regard to the form of the thesis are stated on page 42, and additional information will be supplied by the Dean.

Payment of tuition for the thesis entitles the candidate, during the academic year of registration, to the advice and direction of the member of the Faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year is granted without further tuition payment. If the preparation of the thesis extends beyond the two-year period, it must be registered for again, and tuition paid on the same basis as for a repeated course.

### MASTER OF ARTS IN GOVERNMENT

This degree is offered in five different curricula which are described below.

Students who have a special need for integrating courses from two or more of the major fields of concentration for the degree of Master of Arts in Government may request approval, by a faculty committee, of a special major program. All rules and regulations for the degree of Master of Arts in Government will apply to such special programs.

### FOREIGN AFFAIRS

**Prerequisite:** an undergraduate major in foreign affairs, economics, history, or political science, depending upon the field of specialization. Any course deficiency in foreign affairs must be made up.

The program in Foreign Affairs is offered in three fields of specialization: International Economics, International Politics, and Regional Studies.

**International Economics.**—Graduate courses in economics (numbered 200 and over) in the field of international trade, the balance of payments, international financial policies, and international economic policies form the principal part of this specialization. Graduate courses in economic theory are recommended. Other courses may be included with the consent of the adviser.

**International Political Relations.**—Graduate courses in political science and history (numbered 200 and over), in international law, international politics, international organization, diplomatic history, and American foreign policy, comprise

the principal requirements for this specialization. Related courses may be added with the consent of the adviser.

*Regional Studies.*—Graduate courses in economics, political science, history, and geography (numbered 200 and over) dealing with a geographic region, such as Latin America, Europe, or the Pacific Area, comprise the principal requirements. Other courses of broader scope in economics, history, and political science are recommended as part of the program. The adviser in all cases must approve such selections.

The listing of graduate courses for these programs is given in the departmental offerings for Economics, History, Political Science, and Geography.

### ECONOMIC POLICY

Prerequisite: an undergraduate major in economics or the equivalent.

Graduate courses in economics, especially those in the theory of economic policy, the level of income and employment, national income, economic stabilization, and fiscal policy, comprise the principal part of this program. Graduate courses in economic theory and statistics are recommended to complete the program. These courses and others that may be appropriate are to be selected with the consent of the adviser.

### ACCOUNTING

Prerequisite: an undergraduate major in accounting or the equivalent. The program in Accounting requires the following courses:

Acct. 231.....	Contemporary Accounting Theory.....	3
Acct. 271.....	Auditing Practice.....	3
Acct. 295-96.....	Seminar in Accounting.....	6
Bus. Adm. 231.....	Corporate Financial Problems.....	3

The remaining nine hours of course work are to be selected from courses in or related to accounting with the approval of the adviser.

### BUSINESS AND ECONOMIC STATISTICS

Prerequisite: an undergraduate major in statistics or the equivalent, coupled with adequate training in economics, business administration, and mathematics.

The program in Business and Economic Statistics requires at least twelve credit hours to be taken from the following:

Statistics 201.....	Design of Experiments.....	3
Statistics 202.....	Theory of Estimation and Testing Hypotheses.....	3
Statistics 203-4.....	The Theory of Econometrics.....	6
Statistics 205-6.....	Advanced Business and Economic Statistics.....	6

The remaining twelve hours are to be selected from graduate work offered by the departments of Business Administration, Economics, and Statistics with the approval of the adviser.

### VOCATIONAL COUNSELING

Prerequisite: an undergraduate major in psychology, business administration, or education; or an undergraduate major in the social sciences appropriate to specialization in this field. The undergraduate background should include necessary basic training in such fields as psychology, sociology, statistics, labor economics, and business management or public administration.

The Master of Arts program in Vocational Counseling requires the following courses:



Psychology 227.....	Seminar: Counseling and Guidance.....	3
Psychology 228.....	Seminar: Techniques of Counseling.....	3
Psychology 229.....	Seminar: Occupational and Educational Information .....	3
Psychology 231.....	Test Construction.....	3
Psychology 236.....	Seminar: Analysis of the Individual for Purposes of Counseling.....	3

The remaining nine hours are elective, with the approval of the adviser.

#### MASTER OF ARTS IN PUBLIC ADMINISTRATION

The purpose of the program for the degree of Master of Arts in Public Administration is to prepare graduates to enter public service in the field of administration and to advance the professional competence of graduates already in public employment. The major fields are General Administration and Governmental Fiscal Administration.

#### GENERAL ADMINISTRATION

Prerequisite: an undergraduate background in the social sciences appropriate to specialization in this field.

The program in General Administration requires Political Science 265-66, *Workshop in Public Administration*, and eighteen additional graduate credits to be selected from the following, with the approval of the adviser:

Acct. 261.....	Seminar in Federal Taxation.....	3
Econ. 266.....	Problems in Governmental Economic Policy..	3
Pol. Sc. 209-10.....	Seminar: the Legislative Process.....	6
Pol. Sc. 226.....	Problems in Governmental Reorganization...	3
Pol. Sc. 239.....	Personnel Administration .....	3
Pol. Sc. 240.....	Problems in Personnel Management.....	3
Pol. Sc. 253.....	Staff Functions in Government Administration	3
Pol. Sc. 255.....	Seminar: Principles and Problems of Administration .....	3
Pol. Sc. 260.....	Seminar: Administration of Major Governmental Programs .....	3
Pol. Sc. 261-62.....	Reading and Conference Course in Public Administration .....	3
Pol. Sc. 263-64.....	Analysis of Administrative Procedures.....	3

#### GOVERNMENTAL FISCAL ADMINISTRATION

Prerequisite: an undergraduate background in the social sciences with emphasis in economics and business administration.

The program in Governmental Fiscal Administration requires Political Science 265-66, *Workshop in Public Administration*, and eighteen additional graduate credits selected from the following, with the approval of the adviser:

Acct. 246.....	Governmental Accounting and Budgeting Problems .....	3
Acct. 261.....	Seminar in Federal Taxation .....	3
Bus. Adm. 286.....	Management in the Armed Forces.....	3
Bus. Adm. 295.....	Controllershship in the Federal Service.....	3
Bus. Adm. 296.....	Seminar in Controllershship.....	3
Econ. 223-24.....	Monetary Policy and Central Banking.....	6
Econ. 260.....	Theory of Public Finance.....	3



Econ. 261-62.....	Public Finance and Fiscal Policy.....	6
Pol. Sc. 252.....	Budgetary and Financial Administration.....	3
Pol. Sc. 253.....	Staff Functions in Government Administration	3
Pol. Sc. 255.....	Seminar: Principles and Problems of Administration .....	3
Pol. Sc. 260.....	Administration of Major Governmental Programs .....	3

#### MASTER OF ARTS IN PERSONNEL ADMINISTRATION

The purpose of the program for the degree of Master of Arts in Personnel Administration is to train graduates in personnel management techniques and problems. While the emphasis is placed on governmental personnel work, the curriculum may be adapted to the interest of graduates who plan a career in personnel relations in business.

Prerequisite: an undergraduate major in the social sciences, business administration, or education, coupled with courses in personnel psychology, social psychology, or abnormal psychology.

The program requires twenty-four graduate credits, in general developed from the following, with the approval of the adviser:

Bus. Adm. 291-92....	Seminar in Business Management.....	6
Econ. 241.....	Labor Economics.....	3
Econ. 244.....	Labor Relations.....	3
Pol. Sc. 239.....	Personnel Administration.....	3
Pol. Sc. 240.....	Problems in Personnel Management.....	3
Psych. 228.....	Seminar: Techniques of Counseling.....	3
Psych. 242.....	Seminar: Personnel Psychology.....	3
Psych. 244.....	Seminar: Job Analysis and Evaluation.....	3
Psych. 246.....	Personnel Measurement Techniques.....	3
Elective.....		6

#### MASTER OF BUSINESS ADMINISTRATION

This curriculum provides the graduate student with the general and specialized training which will help him advance to responsible positions in business. Business training is essential also for many positions in government service and the program offers such training.

Normally, a student with an acceptable (B average) undergraduate major in Business Administration, or its equivalent, can complete the work for the Master of Business Administration in one year. All such programs must be approved by the adviser. Students with course deficiencies, but with good academic records, will be admitted to study for the Master of Business Administration and will be required to take up to 60 credit hours of work for this degree. The amount of work over and above 30 credit hours, and the courses to be taken, will be determined by the adviser, with the approval of the Dean.

Graduate course work in Business Administration is listed on page 215. The Master of Business Administration program, with the approval of the adviser, may include certain graduate courses from other departments, such as Economics, Accounting, and Statistics.

### DOCTOR OF BUSINESS ADMINISTRATION

The work for this degree is under the supervision of the Committee on Doctoral Studies of the School of Government.

An applicant must have the degree of Master of Business Administration, Master of Arts in Business Administration, or Master of Arts in a related field, or the equivalent of such degrees, together with acceptable personal qualities and a capacity for creative scholarship. Each applicant must demonstrate his competence in Statistics and Accounting, either by qualifying examinations or acceptable university credits in these subjects.

After admitting an applicant, the Committee on Doctoral Studies, in consultation with the applicant, will designate six fields of study and appoint an Adviser to guide the student in his work in these fields. As part of this work, the student must complete a minimum of thirty credit hours in graduate courses. Additional course work may be prescribed by the Adviser.

When the applicant has satisfied his Adviser and the Committee of his readiness to take the General Examination, this Examination will be scheduled.

The General Examination is a written comprehensive on fields of study not limited to the subject matter of courses taken in these fields. Two fields of study are required of all applicants: Economic Theory and Business and Economic History. The four additional fields, selected by the Committee and the applicant, will be drawn from the following list: Marketing, Organization and Management, Business Finance and Investments, Personnel Management, Public Administration, Accounting Theory, Money and Banking, Statistics, Risk and Risk Bearing, Transportation and Traffic Management, and such others as the Committee may designate.

Upon successful completion of the General Examination and approval of the subject of the doctoral dissertation, the student may be admitted to candidacy by the Committee on Doctoral Studies. The candidate's research and the preparation of his dissertation are supervised by a Research Adviser designated by the Committee.

The Final Examination of the candidate consists of his oral defense of the dissertation. The examination will be given by a committee appointed by the Committee on Doctoral Studies. Upon successful completion of this oral examination the candidate will be approved for the degree of Doctor of Business Administration by the Committee on Doctoral Studies.

### SPECIAL PROGRAMS

The School of Government offers the Navy Graduate Comptrollership program for Naval officers sponsored by the Naval Post Graduate School. In cooperation with the College of General Studies, the School of Gov-



ernment is conducting the Air Force Manpower Management Training Program, sponsored by the Department of the Air Force. The School conducts a program for the training of Air Force Legislative Officers, also sponsored by the Air Force.

The School of Government cooperates with the College of General Studies in the off-campus program of that College, particularly in the fields of controllership and management.

The Department of Business Administration offers work in the field of property and casualty insurance as part of the educational program of the American Institute for Property and Liability Underwriters, Inc.

#### FOREIGN SERVICE REVIEW COURSE

The School of Government is continuing to offer its summer Foreign Service Review Course, started in 1946, for persons interested in preparing for the written Foreign Service Examination given by the Department of State.

Since this Course is primarily an intensive review of college work already completed, and is offered as a service to the superior graduate student who wishes to prepare for the written Foreign Service Examination, no academic credit will be given.

Subjects to be reviewed during the 1952 Course will include the following: American History and American Diplomatic History; European History and European Diplomatic History; Principles of Economics (including International Economics and Foreign Exchange); Geography; General Statistics; Composition; Races, Languages, and Religions; Contemporary Affairs.

For further details, including designation by the Department of State, admission requirements, fees, and living accommodations, address The Director, Foreign Service Review Course, School of Government.

#### BUREAU OF BUSINESS AND ECONOMIC RESEARCH

The Bureau, an established part of the School of Government, conducts research in both the fields of business and economics. This work is under the direction of the Executive Committee of the Bureau of Business and Economic Research. Special attention is given to problems of the metropolitan area of Washington, D. C. Research projects are also sponsored by public and private agencies. Both faculty and students of the School of Government participate in the activities of the Bureau of Business and Economic Research. Results of research activities as well as abstracts of selected masters' theses are reproduced and disseminated by the Bureau.



## THE COLLEGE OF GENERAL STUDIES

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Mitchell Dreese, Ph.D., *Dean of the College of General Studies*  
John Francis Latimer, Ph.D., *Assistant Dean of the College of General Studies, Director of the Off-Campus Division*  
Mary Ellen Coleman, A.M., *Director, Reading Clinic*  
Karl Ernest Stromsem, Ph.D., *Adviser on Government Intern Scholarships*

### THE DEAN'S COUNCIL •

Benjamin Douglass Van Evera                      Burnice Herman Jarman  
James Harold Coberly

## GENERAL INFORMATION

### INTRODUCTORY

The College of General Studies of The George Washington University, established in 1950, is designed primarily to supplement the adult education opportunities previously available at the University. It includes the following divisions: (1) the Off-Campus Division, including the Armed Forces Section; (2) the Campus Division; and (3) the Division of Community Services.

### OFF-CAMPUS DIVISION

In recent years, employee in-service training has been increasingly emphasized in government, education, business, and industry. The Off-Campus Division of the College of General Studies works closely with personnel administrators, training officers, school officials, and others interested in developing programs of in-service training and brings the educational resources of the University to bear on such programs. Credit and non-credit courses are organized in any field in which there is sufficient demand and for which instructional facilities can be made available. These courses meet at the time and place most convenient for the students enrolled and may begin at any time of the year. Credit courses are accepted by any school or college of the University provided the student is accepted for degree candidacy in that school or college and the courses in question are within the scope of the curriculum requirements. Credit courses may also be transferred to other colleges and universities.

• The President of the University and the Dean of the College of General Studies are members ex officio of the Council.

#### Admission to Off-Campus Courses

Admission to an off-campus course does not constitute admission to degree candidacy in the University.

*Credit Courses.*—A simplified procedure for admission and registration in off-campus credit courses is conducted at the first meeting of the class. Transcripts of previous academic work are not required. Registration is restricted to those whose qualifications indicate that they are able to complete the course successfully.

*Non-Credit Courses.*—In general, off-campus non-credit courses are open to any individual interested in enrolling. When a non-credit course is organized at the request of some particular agency or group, admission may be restricted to the students recommended by the sponsoring organization. A limit on the size of classes may have to be imposed in order to maintain the quality of instruction.

#### Admission to Degree Candidacy

In agencies and service installations where there is sufficient enrollment to permit offering the necessary range of courses, it is possible to earn the Associate in Arts, Bachelor of Arts, or Master of Arts degrees, without campus study. For further information, see the Bulletin of the College of General Studies.

#### CAMPUS DIVISION

This Division has been established in recognition of the fact that there are adults, well qualified to undertake a particular program of college work, whose academic preparation would not ordinarily qualify them for admission to a previously established school or college of the University, at least not without considerable prerequisite work. It is also recognized that an adult, through his work experience, may have gained competency in some particular area of learning. This knowledge may be validated by special examinations to entitle him to advanced standing toward a degree. For further information, see the bulletin of the College of General Studies.

#### DIVISION OF COMMUNITY SERVICES

This division was organized to meet three different educational needs. Non-credit courses in a wide variety of subject fields will be set up at the request of any interested group. There will be no entrance requirements. The length of each course will be determined by the wishes of the sponsoring group and the nature of the subject to be studied.

The George Washington University Reading Clinic offers both diagnostic and corrective work for small groups or individuals and reading improvement techniques for small classes. All courses are designed to meet particular individual needs whether on a remedial basis or for accelerated reading comprehension.

The Government Management Intern Scholarship Program offers annually fifty scholarships to assist federal agencies in training carefully selected young men and women for administrative leadership in the government career service. Each scholarship provides a tuition-free course of three credit hours a term and appropriate academic credit (up to six credit hours) for the successful completion of training assignments required in an agency program which has been evaluated by the University.

#### FEEES

For information concerning fees for credit courses, see page 22. For non-credit courses, the fee will be determined in accordance with the length and nature of the course. Tuition in non-credit courses is due and payable at the first meeting of the class.



## THE DIVISION OF UNIVERSITY STUDENTS

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Elmer Louis Kayser, Ph.D., LL.D., *Dean of the Division of University Students*

### THE DEAN'S COUNCIL\*

Ralph Dale Kennedy

Francis Edgar Johnston

Charles Rudolph Naeser

### GENERAL INFORMATION

#### INTRODUCTORY

The Division of University Students was established in 1930. In this Division are registered mature students who wish to undertake University courses either for credit or as auditors but who are not at this time working toward degrees in this University.

#### REGULATIONS

*Students in the Division of University Students are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 12-25; the University regulations stated on pages 38-44; and the regulations concerning PROBATION, SUSPENSION, AND WARNINGS which are the same as those stated on pages 54 and 55 under the Junior College.*

#### TRANSFER TO REGULAR STATUS

A "University student" may be transferred, at his request, to another college or school of the University only upon complying with the regulations of the specific college or school to which he wishes to transfer. The student should familiarize himself with the regulations printed in the University CATALOGUE concerning admission, residence, amount and quality of work. Specifically, he should note that in some cases not more than thirty (30) hours of credit may be transferred from this Division; that at least the last thirty (30) credit hours must be spent in residence in the college or school granting the degree; and that a general quality-point index of 2.00 must be maintained, with an index of 2.50 in the major.

\* The President of the University and the Dean of the Division of University Students are members ex officio of the council.

## THE DIVISION OF SPECIAL STUDENTS

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Warren Reed West, Ph.D., *Dean of the Division of Special Students*

### THE DEAN'S COUNCIL\*

Thelma Hunt  
Raymond Pugh Eyman      Fred Salisbury Tupper

### GENERAL INFORMATION

#### INTRODUCTORY

The Division of Special Students was organized in 1944. To this Division may be admitted students who are in the process of qualifying for degree candidacy. Students in this Division are designated "special students".

#### REGULATIONS

*Students in the Division of Special Students are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 12-25; and the University regulations stated on pages 38-44.*

#### SCHOLARSHIP

A student in this Division may be dropped for reasons of scholarship at any time his quality-point index falls below 2.00.

The system of grading and computing scholarship is described in detail on pages 38 and 39.

#### ACADEMIC SCHEDULE

The schedule of the "special student" is made up of courses required in the curriculum to which he wishes to transfer. If he has not completed the language requirements of this curriculum at the time of his admission to the University, he must include three hours of language in each twelve hours of work until this requirement is met. Second- or third-group courses may not be taken unless all first-group requirements have been met or are being met concurrently.

In each individual case, the schedule will be reduced when it is deemed advisable.

#### TRANSFER TO REGULAR STATUS

A "special student" may be transferred to another college or school of the University only upon complying with the regulations of the specific

\* The President of the University and the Dean of the Division of Special Students are members ex officio of the council.

Membership in the Unit, which is voluntary, is open to any regularly enrolled full-time, male student who is a citizen of the United States, between the ages of 14 and 25, physically qualified, of good character, and a candidate for a degree.

The instruction is divided into two two-year courses, the basic and the advanced. Students who successfully complete the basic course or have equivalent military training may enter the advanced course. Students in the advanced course receive from the Government a stipend of approximately \$600 at the rate of \$27 a month. During the period of the summer camp, the advanced student receives \$75 a month, food, lodging, and travel expense. Each advanced student is provided a custom-tailored uniform which becomes his property upon being commissioned, but he must purchase a uniform overcoat. Books and training materials are provided for all Air Science courses.

#### REGULATIONS

Students in the Division of Air Science are subject to and are expected to familiarize themselves with the University regulations of the college, school, or division in which enrolled, and the regulations of the United States Air Force pertaining to Air Force Reserve Officers' Training Corps cadets.

A student enrolling in the basic course must agree to complete the course unless he withdraws from the University. A student enrolling in the advanced course must agree to complete the course; attend a six-week summer camp; accept a commission, if tendered; and serve a period of two years on active duty, after receipt of his commission, when and if called by the Secretary of the Air Force.



## THE SUMMER SESSIONS

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Burnice Herman Jarman, A.M., Ed.D., *Director of the Summer Sessions*

The George Washington University is continuing the accelerated program started in 1942. During the summer the University offers two eight-week sessions which together constitute the equivalent of the fall or spring term of the academic year. In addition, the School of Education offers a special six-week session for teachers, with a pre-session of three weeks and a post-session of three weeks. Students may enter the Summer Sessions at the beginning of any of the sessions.

During the summer of 1952, courses are offered in the Junior College, Columbian College (the senior college), the Law School, the School of Pharmacy, the School of Education, the School of Government, and the College of General Studies.

For a complete statement concerning summer-term work, see the Summer Sessions catalogue.



## ADMINISTRATIVE UNITS



is required to pass a thorough examination at the beginning of each term; (5) the above regulations apply also during the summer term of the University.

The University is not responsible for injuries received in inter-collegiate or intra-mural games, or in any of the activities of the physical education departments.

## VETERANS EDUCATION

The Office of Veterans Education of The George Washington University operates as a service bureau for veterans interested in studying at the University and acts in a liaison capacity between the University and the Veterans Administration. Here information will be given concerning the educational program of the University and the procedure for securing the educational benefits of the GI Bill.

Attention is invited to the provision of law which prescribes that courses under the GI Bill must be "initiated not later than four years after either the date of discharge or the termination of the present war, whichever is the later". For most veterans this means that the course must have been initiated by July 24, 1951. This deadline date has several important implications for veterans to whom it applies: (1) changes of course or of institution are much more difficult to get approved by the Veterans Administration than formerly; (2) veterans, with few exceptions, will be required to maintain continuity in course by taking at least one subject each fall term and each spring term; and (3) in most cases veterans who withdraw from the University during the fall term, the spring term, or a summer term will be considered to have terminated their courses and thus have forfeited further educational benefits. This last action is not applicable to veterans who are able to give reasons for withdrawal satisfactory to the Veterans Administration. Students contemplating any action involving any of the three points just described are strongly urged to make advance inquiry at the Regional Office of the Veterans Administration or at the Office of Veterans Education as to the probable effect of such action.

### AUTHORIZATION FROM THE VETERANS ADMINISTRATION

At least thirty days prior to registration the veteran should apply to the Regional Office of the Veterans Administration, 1825 H Street, NW., for a Certificate of Eligibility and Entitlement or, if entitled to vocational rehabilitation, a letter approving training under Public Law 16 for presentation to the Office of Veterans Education at the time of registration. A photostatic copy of separation papers must accompany the original application for certification. Veterans who have attended another institution under the GI Bill must obtain a Supplemental Certificate of Eligibility to present to this University.

Veterans already enrolled in the University are requested to consult the Office of Veterans Education prior to making any changes in academic program, because of changes in Veterans Administration regulations concerning Supplemental Certification.

**ADMISSION**

The entrance requirements for the Junior College, Columbian College, and the School of Government, in other than the pre-professional curricula, have been somewhat modified for veterans who are deficient in the regular requirements for admission, but who have been found by psychological and educational tests able to undertake college work. Veterans who have been enrolled in another educational institution since leaving the service, or who have been out of the service for more than one year prior to the beginning of the term for which they seek admission, must qualify under the regular admissions policies. (For admission requirements and procedure, see pages 12-20.)

Credit for work done in the service schools is granted by the Junior College, Columbian College, the School of Engineering, and the School of Government provided the veteran has not been out of the service for three years or more. To be considered for such credit, veterans should submit to the Director of Admissions photostatic copies of their records indicating courses successfully completed with sufficient identification of the course to enable the Admissions Office to locate it in the Guide to Evaluation of Educational Experience in the Armed Forces.

**CONTINUOUS REGISTRATION**

By carrying a continuous program throughout the fall, spring, and summer terms, the veteran may complete a four-year college course in three calendar years with no interruption in his subsistence payments.



COURSES OF INSTRUCTION



## COURSES OF INSTRUCTION

On the following pages of this CATALOGUE, under the alphabetically arranged names of the departments of instruction, are listed the courses of instruction offered by the University in the summer of 1952 and in the academic year 1952-53. The courses as here listed are subject to some slight change. The University reserves the right to withdraw any course announced.

### HOURS OF INSTRUCTION

Courses of instruction are scheduled in the morning, afternoon, and evening. Evening classes are identical with daytime sections of corresponding courses, are taught by the same instructors, and carry the same amount of credit. By taking the evening and summer classes and extending the time of study beyond the customary four years, a student who is able to give only part of his time to college work may complete a regular curriculum and obtain a degree.

### EXPLANATION OF COURSE NUMBERS

*An odd number preceding the name of the course indicates that the course is offered in the fall term; an even number, that it is offered in spring term; and a double number (157-58), that it begins in the fall term and continues in the spring term.* The letter "x" following an odd course number (e.g., 21x) indicates that the course, normally offered in the fall term, is given in the spring term. The letter "x" following an even course number (e.g., 22x) indicates that the course, normally offered in the spring term, is given in the fall term.

In the departments of the School of Medicine, first-year courses are numbered from 101 to 200; second-year courses, from 201 to 300; third-year courses, from 301 to 400; and fourth-year courses, from 401 to 500. This includes courses open to both medical and nonmedical students. Courses limited to nonmedical students follow the numbering system used in "all other schools and colleges" (see below).

In the Law School, first-year courses are numbered from 101 to 200; second-year courses, from 201 to 300; third-year courses, from 301 to 400; and graduate courses, from 401 to 500.

In all other schools and colleges the following system of numbering is used:

*First-group courses.*—Courses numbered from 1 to 100 are planned for students in the freshman and sophomore years. With the approval of the adviser and the dean, they may also be taken by juniors and seniors. In certain instances, they may be taken by graduate students to make up



undergraduate deficiencies or as prerequisite to advanced courses, but they may not be credited toward a higher degree.

*Second-group courses.*—Courses numbered from 101 to 200 are planned for students in the junior and senior years. They may be credited toward higher degrees only when registration for graduate credit has been approved at the beginning of the course by the dean responsible for the graduate work and by the officer of instruction, and when the completion of additional work has been certified by the officer of instruction.

*Third-group courses.*—Courses numbered from 201 to 300 are planned primarily for graduate students. They are open, with the approval of the officer of instruction, to qualified seniors; they are not open to Junior College students or other undergraduates.

#### INDICATION OF THE AMOUNT OF CREDIT

The number of credit hours given for the satisfactory completion of a course is, in most cases, indicated in parentheses after the name of the course. Thus, a year course giving three hours of credit each term is marked (3-3), and a term course giving three hours of credit is marked (3). A credit hour usually consists of the completion of one fifty-minute period of class work or of one laboratory period a week for one term.

A dagger (†) preceding the number of a year course indicates that the course may not be entered in the second term and that credit will not be given until the work of both terms has been completed.

## ACCOUNTING

Ralph Dale Kennedy, Ph.D., *Professor of Accounting, Executive Officer*  
 Orton Wells Boyd, A.M., C.P.A., *Professorial Lecturer in Accounting*  
 Edwin Lewis, M.B.A., *Professorial Lecturer in Accounting*  
 James Leonard Buckler, A.M., *Lecturer in Accounting*  
 Ira Ernest Steele, A.M., *Lecturer in Accounting*  
 Harold Jerome Bobys, A.B., C.P.A., *Lecturer in Accounting*  
 Forest Carlyle Brimacombe, M.B.A., *Lecturer in Accounting*  
 Harold Green, A.B., J.D., *Lecturer in Accounting*  
 Frederick Charles Kurtz, M.B.A., *Instructor in Accounting*  
 Gordon Edward Bell, M.B.A., C.P.A., *Instructor in Accounting*

*Associate in Arts (Junior College—Two-year vocational curriculum in Accounting).*—For curriculum, see pages 61-62.

*Bachelor of Arts and Master of Arts in Government with a major in Accounting (School of Government).*—See pages 155, 160, 164.

### FIRST GROUP

- 1-2 *Introductory Accounting (3-5)* Kennedy and Staff  
 Study of basic principles underlying accounting records used by single proprietorships, partnerships, and corporations; preparation of the work sheet and financial statements; introduction to cost accounting and to valuation and income determination problems. Prerequisite to Accounting 2: Accounting 1 or permission of the Instructor. Morning and evening sections. (Also offered 1952 summer term.)  
 Accounting 1x, same as 1, offered spring term. Evening.  
 Accounting 2x, same as 2, offered fall term. Evening.

- 3 *General Accounting (3)* Kennedy  
 Study of elementary accounting theory, practice, analysis, and terminology, with special reference to single proprietorships and corporations; preparation and analysis of financial statements; and introduction to cost accounting. (Not offered in 1952-53.)

### SECOND GROUP

- 101 *Cost Accounting (3) (formerly 147)* Bell  
 Study of the theory and purposes of industrial cost accounting; treatment of the systems of cost control and determination; and the analysis and interpretation of cost data. Prerequisite: Accounting 1-2. Evening. (Also offered 1952 summer term, as Accounting 147.)

- 111 *Financial Statement Analysis (3)* Kennedy, Steele  
 (formerly 137)  
 Methods and techniques of preparing, analyzing, and interpreting financial statements for the guidance of operating executives, directors, stockholders, and creditors; determination and interpretation of trends

and ratios. Prerequisite: Accounting 1-2. Morning. (Also offered 1952 summer term, as Accounting 137.)  
Accounting 111x, same as 111, offered spring term. Evening.

**121-22 Intermediate Accounting (3-3) Kurtz, Steele**  
(formerly 151-52)

Study of valuation and income determination problems; treatment of depreciation, funds, and reserves; accounting for the organization, financing, operation, and dissolution of partnerships and corporations. Prerequisite: Accounting 1-2. Prerequisite to 122: Accounting 121. Morning and evening sections. (Also offered 1952 summer term, as Accounting 151-52.)

**131x Accounting Theory (3) Kennedy**

Study of the development of basic accounting principles and concepts with special reference to the current thought expressed by the American Institute of Accountants and the American Accounting Association. Prerequisite: nine hours of accounting or permission of the instructor. Morning.

**141 Governmental Accounting (3) (formerly 125) Lewis**  
Problems relating to governmental appropriation accounts, encumbrances, and fund accounting. Emphasis placed on municipal and state government accounting with an introduction to federal accounting. Prerequisite: Accounting 1-2 or permission of the instructor. Evening.

**142 Federal Accounting (3) (formerly 126) Lewis**  
Accounting problems and reports of the Federal Government. Prerequisite: Accounting 141 or permission of the instructor. Evening.

**151 Governmental Budgeting—Formulation and Adoption (3) (formerly 121) Buckler**  
Study of the development of budgetary theory and current techniques, procedures, and problems relating to the formulation and adoption of municipal, state, and federal government budgets. Evening.

**152 Governmental Budgeting—Administration (3) Buckler**  
Theory, practices, procedures, and problems involved in the evaluation and administration of budgeted programs for municipal, state, and federal governments. Prerequisite: Accounting 151 or permission of the instructor. Evening.

**155 Business Budgeting (3) Buckler, Brimacombe**  
(formerly 102)  
Study of the principles, preparation, and administration of a business budget with emphasis on the importance of the budget to management. Prerequisite: Accounting 1-2. Evening. (Also offered 1952 summer term, as Accounting 102.)  
Accounting 155x, same as 155, offered spring term. Morning.

**161 Business Taxation (3) (formerly 111) Boyd**  
A managerial approach to the impact of federal and state taxation upon the organization, reorganization, financing, and operation of



business enterprises; difference between tax accounting and financial accounting; pension funds. Prerequisite: Accounting 1-2. Morning and evening sections. (Also offered 1952 summer term, as Accounting 111.)

162 *Federal Tax Practice* (3) (formerly 112) Boyd

The professional accountant's practice of federal taxation, including the income tax and estate and gift taxes; preparation of returns; assessment, collection, and refund procedures; use of the tax services. Prerequisite: Accounting 161 or permission of the instructor. Evening.

171x *Auditing* (3) (formerly 161) Kurtz

Study of the duties and responsibilities of the auditor, principles and procedures of making audits; the technique of verifying each financial statement item, and the preparation of audit working papers and reports. Prerequisite: Accounting 121-22. Evening.

181 *Accounting Systems* (3) (formerly 191) Lewis

Theory and procedure of designing and installing accounting systems for collecting, recording, analyzing, and presenting accounting data. Prerequisite: Accounting 101, 122, and 171, or permission of the instructor. Evening.

191 *Advanced Accounting* (3) (formerly 153) Kurtz

Intensive study of consolidated statements, statement of affairs, realization and liquidation reports, and estate and trust accounting. Prerequisite: Accounting 121-22. Evening. (Also offered 1952 summer term, as Accounting 153.)

198 *Professional Accounting Review* (3) Bell

Review and coordination of the principles and techniques developed in the accounting curriculum, in preparation both for general practice in the field of accountancy and for professional accounting examinations. Prerequisite: Accounting 101, 141, 162, 171, and 191, or permission of the instructor. Evening.

THIRD GROUP

202 *Advanced Cost Accounting* (3) (formerly 148) Bell

Study of advanced cost accounting theory and problems with emphasis on development and analysis of standard costs, the use of cost data for managerial control, joint and by-product costs, and distribution cost accounting. Prerequisite: Accounting 101 or permission of the instructor. Evening.

211 *Managerial Accounting* (3) Kennedy, Steele  
(formerly 135)

Study of the accounting system with special reference to the use of financial and operating records as a tool of management; emphasis is placed on managerial internal accounting control, accounting reports, and the use of budgets and cost data in directing and controlling the business. Prerequisite: twelve hours of accounting or the permission of the instructor. Evening. (Also offered 1952 summer term, as Accounting 135.)

- 231 *Contemporary Accounting Theory* (3) Kennedy  
(formerly 282)  
An intensive study of advanced accounting principles and concepts and of recent theories in connection with the valuation of assets and the determination of income. Prerequisite: eighteen hours of Accounting or permission of the instructor.  
Summer term 1952 (offered as Accounting 282).
- 246 *Governmental Accounting and Budgeting Problems* (3) (formerly 226) Lewis  
Advanced principles and practices in federal accounting relationship to general policy and administration. Prerequisite: Accounting 142 and 152, or permission of the instructor. (Not offered in 1952-53.)
- 261 *Seminar in Federal Taxation* (3) (formerly 211) Green  
Specialized study planned as a guide to the preparation of briefs and reports in federal taxation, analyses of statutes, regulations, and leading cases. Prerequisite: Accounting 162 or permission of the instructor. Evening.
- 271 *Auditing Practice* (3) (formerly 262) Kurtz  
Preparation of an audit report, accounting statements to be filed with Securities and Exchange Commission, current developments of auditing standards and practice. Prerequisite: Accounting 171 or permission of the instructor. (Not offered in 1952-53.)
- 273 *Internal Control and Auditing* (3) Kurtz  
Study of internal accounting controls; review and appraisal of accounting systems and procedures; study and evaluation of managerial policies with respect to their effectiveness and profitability. Emphasis is placed upon the use of internal control and auditing as an aid to management. Prerequisite: Accounting 171 or permission of the instructor. (Not offered in 1952-53.)
- 295-96 *Seminar in Accounting* (3-3) Kennedy  
Study, investigation, and discussion of selected accounting research topics and problems; individual oral and written reports. Admission by permission of the instructor. Evening.
- 299-300 *Thesis* (3-3) The Staff  
Time to be arranged. (Also offered 1952 summer term.)

## AIR SCIENCE AND TACTICS

Walter Grant Bryte, Jr., B.S., Colonel, United States Air Force, *Professor of Air Science and Tactics, Executive Officer*

Robert Kenyon Schubert, Major, United States Air Force, *Assistant Professor of Air Science and Tactics*

Robert Oliver Weyburn, Jr., B.S., Major, United States Air Force, *Assistant Professor of Air Science and Tactics*

William Robert Smith, B.B.A., Captain, United States Air Force, *Assistant Professor of Air Science and Tactics*

Frederick Raymond Risley, Master Sergeant, United States Air Force, *Instructor in Air Science and Tactics*

Francis Jerome Gleason, Master Sergeant, United States Air Force, *Instructor in Air Science and Tactics*

Vincent Albert Roi, Master Sergeant, United States Air Force, *Instructor in Air Science and Tactics*

George Albert Foelker, Technical Sergeant, United States Air Force, *Instructor in Air Science and Tactics*

Raymond Lloyd Hauck, Technical Sergeant, United States Air Force, *Instructor in Air Science and Tactics*

*Commission in the United States Air Force Reserve.*—Upon the completion of the requirements for a Bachelor's degree and the prescribed program of the Air Force Reserve Officers' Training Corps, the commission of Second Lieutenant in the United States Air Force Reserve will be awarded.

### FIRST GROUP

1-2 *Air Science I—Freshman Year (2-2)* The Staff  
World political geography; drill and exercise of command. Morning and afternoon sections.

51-52 *Air Science II—Sophomore Year (2-2)* The Staff  
Air power concepts including: organization for the defense of the United States; maps, aerial photographs, and aerial navigation; meteorology; aerodynamics and propulsion; and applied air power. Personal maintenance. Drill and exercise of command. Prerequisite: Air Science 1-2 or equivalent active military training. Time to be arranged.

### SECOND GROUP

101-2 *Air Science III—Junior Year (3-3)* The Staff  
Military publications; elementary air force supply procedure; air operations; career training option: students may specialize in administra-



tion and logistics, comptrollership, flight operations, communications, or general technical career options. Prerequisite: Air Science 1-2 and 51-52 or equivalent active military training. Time to be arranged.

151-52 *Air Science IV—Senior Year (3-3)*

Applied fields of officer orientation including: air force administration, military teaching methods, air force management, career development, air force inspection system, logistics, and military law and boards; leadership, drill, and exercise of command; Professor of Air Science and Tactics time; and continuation of specialized training in previously selected career training option. Prerequisite: Air Science 101-2. Time to be arranged.

The Staff

## ANATOMY

Warren Andrew, Ph.D., M.D., *Professor of Anatomy, Executive Officer*  
 Ross Clayton MacCardle, Ph.D., *Professorial Lecturer in Anatomy*  
 Webb Edward Haymaker, M.S., M.D., *Professorial Lecturer in Anatomy*

Paul Calabrisi, A.M., *Associate Professor of Anatomy*  
 Ivor Cornman, Ph.D., *Assistant Research Professor of Anatomy*  
 Edgar Pleasant Jayne, Ph.D., *Assistant Professor of Anatomy*  
 Wilfred Walter Eastman, B.S., M.D., *Clinical Instructor in Anatomy*  
 Alan Andrews Dun, A.B., M.D., *Clinical Instructor in Anatomy*

*Master of Science in the field of Anatomy (Columbian College).*—Prerequisite: a Bachelor of Arts or Bachelor of Science degree from this University, or the equivalent, with a major in Biology, Chemistry, or Zoology. The undergraduate program must include the following courses, or the equivalent: Chemistry 11-12, 21, 151-52; Physics 6, 7; Zoology 1-2, 41-42. Biochemistry 221-22 is recommended as an elective.

Required: thirty credit hours of graduate work including Anatomy 201-2, 295-96, 299-300, and graduate courses in biochemistry, physiology, and related fields selected with the approval of the Department; a grade of *B* or better in course examinations; and the passing of a comprehensive oral examination at the end of the year. It is not always possible to arrange courses and research so that the student can be assured of completing all the required work in one academic year.

### 101-2 *Gross Anatomy*

Calabrisi and Staff

Regional dissection of the human body supplemented with lectures and quiz sections. Study of X-ray anatomy to emphasize the functional aspects of the position, shape, and relation of the viscera and skeletal components. Eighteen hours a week, fall term; nine hours a week, spring term.

### 103 *Human Embryology*

Andrew and Staff

The origin and development of the human body. Special emphasis on the value of embryology in interpreting anatomical anomalies and variations as seen in gross dissection, surgery, obstetrics, and pathology. Three hours a week.

### 105 *Neuro-anatomy*

Haymaker and Staff

The macroscopic and microscopic study of the central nervous system and the special sense organs. Emphasis on such dynamic aspects as development, pathways, lesions, etc. Six hours a week.

### 106 *Microscopic Anatomy*

Andrew and Staff

Study of the detailed minute structure of cells, tissues, and organs of the human body with emphasis on the relation of structure to function. Recognition and interpretation of histological sections tested by practical examinations. Six hours a week.

- 201-2 *Seminar (1-1)* Andrew and Staff  
Reports and discussions of special topics by the Staff and graduate students. For graduate liberal arts students. Regular medical students are encouraged to attend. One hour a week.
- 295-96 *Research (arr.)* Andrew and Staff  
Hours, credits, and fees to be arranged.
- 299-300 *Thesis (3-3)* The Staff



## ANESTHESIOLOGY

Donald Harrison Stubbs, A.M., M.D., *Clinical Professor of Anesthesiology*

Charles Seymour Coakley, M.D., *Professor of Anesthesiology, Executive Officer*

Seymour Alpert, A.B., M.D., *Associate Professor of Anesthesiology*

William Eldridge Bageant, M.D., *Clinical Instructor in Anesthesiology*

Allen Widome, M.D., *Clinical Instructor in Anesthesiology*

### 320 *Anesthesiology*

The Staff

Review of basic sciences and correlation between basic sciences and clinical work. One hour a week.

### 351-52 *Anesthesia Seminar*

The Staff

Third-year students attend anesthesia seminars during their surgical clinical clerkships at the University Hospital. One hour a week.

### 433-34 *Advanced Anesthesiology*

The Staff

Fourth-year students are rotated through the work of the department for a period of one week and assigned to work in operating rooms, conferences, and seminars. For the more advanced students a three-week elective is offered.

## ART

Norris Ingersoll Crandall, M.Arch., *Professor of Art, Executive Officer*  
Donald Chenoweth Kline, B.Arch., M.F.A., *Professor of Art*

### STAFF IN THE CORCORAN SCHOOL OF ART

DRAWING AND PAINTING: Richard Lahey, *Principal*, Eugen Weisz,  
Edmund Archer, Jessalee Sickman, Kenneth Stubbs, Omar Carrington

SCULPTURE AND CARVING: Heinz Warneke

COMMERCIAL ART: Joseph Ross, Leslie Mitchell, Jack McLeod

*Bachelor of Arts (Columbian College—Departmental):*

*The major in Art Appreciation.*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Electives must include Art 11-12 and 71-72. Required: Art 101-2, 121-22, 151-52, 161-62, and two of the following: 101-2, 131-32, 141-42, 143, 146.

*The major in Drawing and Painting.*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Electives must include Art 11-12. Required: Art 121-22 and at least thirty credit hours of drawing and painting. Classes in drawing and painting are held at the Corcoran School of Art.

*Bachelor of Arts in Education with a teaching field in Art (School of Education).*—Prerequisite: the Education curriculum, page 58. Required: the Art option, pages 141-42, and professional courses listed on pages 147-48.

### FIRST GROUP

#### 11-12 *Art Appreciation* (3-3)

Meaning of art in historic periods. Criticisms of works from pre-historic times to present. Symbolology of lines, light values, color, composition, form. Morning and evening sections. Crandall

#### 67-68 *Life and Portrait—Drawing and Painting* (6-6)

Morning, afternoon, and evening sections. Archer, Stubbs

#### 71-72 *Introduction to the Arts in America* (3-3)

Painting, sculpture, architecture, furniture, music, and folk arts. Morning and evening sections. (Also offered 1952 summer term.) Kline

#### 73-74 *Still Life and Portrait—Drawing and Painting; Antique Drawing* (6-6)

Morning, afternoon, and evening sections. Sickman, Carrington

### SECOND GROUP

#### 101-2 *The Design of the Home* (3-3)

The home: history, personality, location, cost, financing, maintenance, structure, light, and color. 1952-53 and alternate years, evening 1953-54 and alternate years, morning. Crandall

- 121-22 *World History of Art* (3-3) Kline  
The fine arts from ancient times to the present. Prerequisite: Art 11-12 or the equivalent. 1952-53 and alternate years, afternoon. 1953-54 and alternate years, evening.
- 131-32 *Greek and Roman Art and Archaeology* (3-3) Latimer  
History, development, significance of the arts of Greece and Rome, and their meaning for the world today. Illustrated lectures combined with class discussions and reports. (Not offered in 1952-53.)
- 141-42 *Interior Decoration* (3-3) Kline  
Practical problems in the selection and use of furniture, wall and floor coverings, draperies, and lighting. 1952-53 and alternate years, evening. 1953-54 and alternate years, afternoon.
- 143 *Folk Arts of America* (3) Kline  
Woodcarving, painting, ceramics, glass, furniture, and music. Afternoon.
- 146 *Art of the Far East* (3) Kline  
The architecture, painting, and sculpture of China and Japan. Afternoon.
- 151-52 *Modern Art* (3-3) Crandall  
Neo-classicism, romanticism, impressionism, expressionism, cubism, and abstract works in terms of structure and form. Prerequisite: Art 11-12 or the equivalent. 1952-53 and alternate years, morning. 1953-54 and alternate years, evening.
- 161-62 *History of Art Criticism* (3-3) Crandall  
A survey of art criticism from ancient Greece to the present. Admission by permission of the instructor. Evening.
- 165-66 *Life and Portrait—Drawing and Painting* (6-6) Lahey, Weisz  
Morning, afternoon, and evening sections.
- 175-76 *Composition* (6-6) Weisz  
Design and pictorial organization; drawing and painting. Afternoon.
- 177 *Still Life and Landscape—Drawing and Painting* (3) Weisz  
Beginners may be admitted with the consent of the instructor. Summer term 1952.
- 178x *Figure, Still Life, and Composition* (3) Browne  
Drawing and painting in all mediums. Classes conducted indoors. Summer term 1952.
- 179-80 *Sculpture* (6-6) Warneke  
Portrait-life modeling and composition in clay, plaster and wood carving. Afternoon and evening sections.



183-84 *Design and Commercial Art*      Ross, Mitchell, McLeod  
(6-6)

Prerequisite: one year (6 hours daily) in a professional art school or the equivalent, or by permission of the instructor. Morning, afternoon, and evening sections.

185-86 *Advanced Commercial Art* (arr.)  
(Not offered in 1952-53.)

## BACTERIOLOGY, HYGIENE, AND PREVENTIVE MEDICINE

Leland Wilbur Parr, Ph.D., *Professor of Bacteriology, Executive Officer*  
 Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*  
 Ralph Gregory Beachley, M.D., Dr.P.H., *Adjunct Professor of Public Health Practice*  
 Mary Louise Robbins, Ph.D., *Associate Professor of Bacteriology*  
 William Gray McCarten, M.S., *Instructor in Bacteriology*  
 \_\_\_\_\_, *Clinical Instructor in Public Health Practice*

### SEMINAR LECTURERS

Charles Armstrong, B.S., M.D., Sc.D., *Professorial Lecturer in Preventive Medicine*  
 Sara Elizabeth Branham, Ph.D., M.D., Sc.D., *Professorial Lecturer in Preventive Medicine*  
 Chester Wilson Emmons, Ph.D., *Professorial Lecturer on Medical Mycology*  
 Willard Hull Wright, D.V.M., Ph.D., *Professorial Lecturer on Medical Zoology*  
 John Roderick Heller, Jr., B.S., M.D., *Professorial Lecturer on Cancer Control*  
 Carl John Lauter, M.S., *Professorial Lecturer on Municipal Sanitation*  
 Robert Carter Cook, *Professorial Lecturer on Medical Genetics*  
 Robert Hanna Felix, M.D., M.P.H., *Professorial Lecturer on Mental Hygiene*  
 Francis Byron Gordon, Ph.D., M.D., *Professorial Lecturer on Virology*

*Master of Arts or Master of Science in the field of Bacteriology (Columbian College).—Prerequisite: a Bachelor of Arts or a Bachelor of Science degree, respectively, from this University, or the equivalent, with a major in Biology, Botany, Chemistry, or Zoology. The undergraduate program must include the following courses or the equivalent: Chemistry 11-12, 21, 151-52; Physics 6, 7; Zoology 1-2, 41-42.*

Required: thirty credit hours, including Bacteriology 209, 210, 293-94, 295-96, 299-300. The remaining courses are to be selected from Bacteriology 219-20, 229, 230, 232, 240 and Biochemistry 221-22 (if not presented for admission). The student with much bacteriological background may substitute for credit one course from the following: cytology, genetics, cell physiology, entomology, histology, biostatistics, and protozoa. It is not always possible to arrange courses and research so that the student can be assured of completing all required work in one academic year.

### 112 General Bacteriology (4)

Robbins

For nonmedical students. A study of the fundamentals of bacteriology, including hygienic applications. Methods of cultivation and con-

trol of several groups of microorganisms are studied in the laboratory. Prerequisite: any biological laboratory science; Chemistry 11-12. Laboratory fee, \$9. Tues., Thurs., and Sat., 9:10 to 12:00 A.M.

209 *Medical Microbiology* (1-11)

Parr, Griffin

Bacteria, rickettsia, viruses, yeasts, molds, protozoa, and metazoa which relate to the health and diseases of man—cultural study of most important forms; methods of diagnosis by microscopic, cultural, immunologic, and animal reactions; theory and methods of immunology; vaccines; serums; antitoxins. Open to suitably prepared graduate students; may be elected as a whole or in part by adding the appropriate letter to the course number, with credit allocated as follows: (a) *Bacteriology*, including rickettsia and viruses—lecture (4), laboratory (3); (b) *Parasitology*, including medical mycology—lecture (2), laboratory (1); (c) *Immunology* (1). May be taken by a limited number of candidates for Master's degrees. Laboratory fee, \$3 for each credit hour of laboratory work. Time to be arranged.

210 *Fundamentals of Epidemiology and Public Health* (2)

Parr and Staff

Sources, modes, and implications of infection and injury. Consideration also given the problems of accidents and industrial medicine. Open to liberal arts graduate students. Prerequisite: *Bacteriology* 112 or 209. Mon., 2:00 to 4:00 P.M.

219-20 *Advanced Microbiology* (arr.)

Griffin and Staff

Special study of advanced methods and current problems in microbiology for suitably qualified students specializing in microbiology. Prerequisite: *Bacteriology* 112 or 209; Chemistry 151-52 or the equivalent; permission of the instructor. Laboratory fee, \$3 a credit hour. Time and credits to be arranged.

229 *Virus Techniques* (6)

Robbins

Principal cultural and serological methods used in the study of viruses and rickettsiae. Nature and properties of these microbes. Lectures, conferences, and laboratory. Prerequisite: *Bacteriology* 112 or 209 and permission of the instructor. Laboratory fee, \$10. 1952-53 and alternate years. Time to be arranged.

230 *Statistics in Microbiology* (3)

Griffin

The application of statistical methods to the problems of microbiology. For liberal arts graduate students. Prerequisite: entrance or elementary college algebra. 1953-54 and alternate years.

232 *Immunological Methods* (3)

Griffin

Preparation and testing of serological materials. Demonstration of basic serological phenomena. For liberal arts graduate students. Prerequisite: *Bacteriology* 112 or 209 and permission of the instructor. Laboratory fee, \$6. 1952-53 and alternate years. Time to be arranged.

240 *Advanced Epidemiology and Public Health* (3)

Parr

Conferences, readings, and problems for graduate students dealing with specialized and advanced phases of the topics presented in *Bacteriology* 210. Prerequisite: *Bacteriology* 210. 1953-54 and alternate years, time to be arranged.



- 293-94 *Staff Seminar (1-1)* The Staff  
For liberal arts graduate students. Bi-weekly throughout the year.  
Time to be arranged.
- 295-96 *Research in Bacteriology (arr.)* The Staff  
Time and credits to be arranged.
- 299-300 *Thesis (3-3)* The Staff
- 340 *Health Resources Survey* Beachley and Staff  
A survey of complete medical care from first contact, through laboratory and clinical diagnosis, adequate medical or surgical treatment to full family and community rehabilitation. Case histories assigned junior students with the cooperation and assistance of the clinical departments. Comparison is to be made between care in near-ideal facilities and care in facilities where the student might begin his practice. Emphasis is on coordination of the private practice of medicine and community public health and welfare activities, both tax supported and voluntary. Throughout the holistic point of view is assumed. One hour a week for three weeks and independent research during summer.
- 401 *Public Health Practice* Beachley  
Study of public health practice at national, state, city, and county levels. Public and private agencies. One hour a week for eight weeks.

## BIOCHEMISTRY

Joseph Hiram Roe, Ph.D., *Professor of Biochemistry, Executive Officer*  
 Carleton Raymond Treadwell, Ph.D., *Professor of Biochemistry*  
 William Henry Sebrell, Jr., M.D., *Professorial Lecturer on Nutrition*  
 George Washington Irving, Jr., Ph.D., *Professorial Lecturer on Proteins*  
 Bernard Leonard Horecker, Ph.D., *Professorial Lecturer on Enzymes*  
 Mary Mills Monier, Ph.D., *Assistant Professor of Biochemistry*  
 Benjamin Williams Smith, Ph.D., *Assistant Professor of Biochemistry*  
 Klaus Schwarz, M.D., *Associate in Biochemistry*

*Master of Arts or Master of Science in the field of Biochemistry (Columbia College).*—Prerequisite: a Bachelor of Arts or a Bachelor of Science degree. The undergraduate program must have included the following courses, or the equivalent: Chemistry 11-12, 21, 22, 151-52; Physics 6 and 7; Zoology 1-2 or Biology 1-2.

Required: thirty credit hours including Biochemistry 221-22, 225, 226, 227-28, 299-300. The remaining courses are to be selected from Biochemistry 231, 251, 261, 295-96, 404, or, with the approval of the adviser, from graduate courses in Bacteriology, Chemistry, Physiology, or Pharmacology. It is usually not possible to arrange courses and research so that the student can be assured of completing all of the required work in one academic year.

### 113-14 *Biochemistry*

Physiological and clinical chemistry for the first-year medical student. Two lectures and two three-hour laboratory periods a week. Roe and Staff

### 221-22 *Biochemistry (4-4)*

A lecture and laboratory course for nonmedical students. Prerequisite: Chemistry 22 and 152. Material fee, \$12 a term. Tues. and Thurs., 9:00 to 12:00 A.M. and 1:00 to 2:00 P.M. Treadwell

### 224 *Biochemistry of the Enzymes (1)*

Lecture course dealing with the biochemistry of the enzymes and enzyme reactions. Prerequisite: Biochemistry 113 or 221. Mon. 5:00 P.M. Horecker

### 225 *Biochemical Preparations (3)*

For liberal arts graduate students. Material fee, \$12. The Staff  
 arranged. Time to be

### 226 *Biochemical Laboratory Methods (3)*

For liberal arts graduate students. Material fee, \$12. The Staff  
 arranged. Time to be

### 227-28 *Biochemistry Seminar (1-1)*

The current literature in the field of biochemistry, mainly for graduate students, but open to a limited number of specially qualified medical students. Fri., 4:00 P.M. Roe

- 231 *Proteins and Amino Acids* (1) Irving  
A lecture course for liberal arts graduate students. Prerequisite: Biochemistry 114 or 222. 1953-54 and alternate years, Mon., 5:00 P.M.
- 251 *Carbohydrate Metabolism* (1) Roe  
A lecture course. Prerequisite: Biochemistry 114 or 222. 1952-53 and alternate years, Sat., 9:00 A.M.
- 261 *Biochemistry of the Lipids* (1) Treadwell  
A lecture course. Prerequisite: Biochemistry 114 or 222. 1953-54 and alternate years, Sat., 9:00 A.M.
- 295-96 *Research in Biochemistry* (arr.) Roe, Treadwell  
Time and credits to be arranged.
- 299-300 *Thesis* (3-3) Roe, Treadwell
- 404 *Applied Nutrition* (1) Sebrell  
For senior medical students and graduate students. Lecture course upon dietary requirements, deficiency diseases, and therapeutic diets. Prerequisite: Biochemistry 114 or 221. Sat., 11:00 A.M.



## BIOLOGY \*

Paul William Bowman, Ph.D., *Professor of Biology, Executive Officer*  
 Sam Clark Munson, M.S., *Assistant Professor of Biology*  
 Robert Carter Cook, *Lecturer on Genetics*  
 Jack Colvard Jones, Ph.D., *Lecturer in Biology*

*Bachelor of Arts or Bachelor of Science with a major in Biology (Columbia College—Field-of-Study).*—Prerequisite: the Arts and Letters or the Science curriculum, respectively, in the Junior College, see pages 56-57. Required: the general requirements as stated on pages 71-76 and the grade of "pass" on the Biology major examination at the end of the senior year. The coordinated field of knowledge upon which the student will be examined includes the classification and life histories of plants and animals, ecology, geology, evolution, heredity, the physical and cultural development of man, public health problems, and the history of biology. The course offerings will be correlated and supplemented by supervised study in a proseminar. For further details, see the pamphlet, which is available at the Office of the Dean of Columbia College.

*Master of Arts or Master of Science in the field of Biology (Columbia College).*—Prerequisite: a Bachelor of Arts or Bachelor of Science degree, respectively, with a major in Biology at this University, or the equivalent. Required: the general requirements as stated on pages 78-80.

*Bachelor of Arts in Education with a teaching field in Biology (School of Education).*—Prerequisite: the Education curriculum, page 58. Required: the Biology option, page 142, and the professional courses listed on pages 147-48.

### FIRST GROUP

#### 1-2 *Survey in Biology* (3-3)

Munson, Jones

Systematic study of the plant and animal kingdoms, with emphasis upon the interdependence of living things and their relations with their environments. Introduction to evolution, heredity, public health and conservation. Material fee, \$5 a term. Lecture (1 hour)—afternoon and evening sections; laboratory (2 hours)—morning, afternoon, and evening sections; field trip to nearby countryside and to museums and other places of biological interest (3 hours)—morning and afternoon sections. (Also offered 1952 summer term.)

### SECOND GROUP

#### 115-16 *Cytology* (3-3)

Bowman

Study of plant and animal cells and their components, including the chromosomes and their role in heredity, with training in the preparation of materials for study. Prerequisite: one year of college work in biology, botany, or zoology. Material fee, \$6 a term. Lecture (1 hour); recitation (1 hour); laboratory (3 hours)—evening. (Also offered 1952 summer term—Biology 115 (3).)

\* See also departments of Botany and Zoology.

127-28 *Genetics* (3-3)

Cook

A lecture course in which the general principles are illustrated with specific examples of inheritance in plants and animals, including man. Prerequisite: one year of college work in biology, botany, or zoology. (Not offered in 1952-53.)

Biology 127x, same as 127, offered spring term. Morning.

139 *Cell Physiology* (3)

Yocum

The fundamental physiology of protoplasm. Prerequisite: Chemistry 12 and one year of college biology, botany, or zoology. Morning.

146 *Environmental Measurements* (3)

Cantlon

Studies in the problems encountered in measuring various environmental factors in terrestrial and aquatic habitats. Emphasis will be placed upon techniques, but the practical applications of environmental measurements will be discussed as the work progresses. Prerequisite: Biology 1, Botany 1, or Zoology 1.

Summer term 1952.

199-200 *Proseminar in Biology* (3-3)

Bowman

Individually planned and directed study by means of which majors in biology may correlate and supplement the subject matter presented in various regular courses. Morning.

## THIRD GROUP

201-2 *Seminar: Cytology* (3-3)

Bowman

Evening.

211-12 *Research in Cytology* (arr.)

Bowman

Time and credits to be arranged. (Also offered 1952 summer term—Biology 211.)

299-300 *Thesis* (3-3)

Bowman

Time to be arranged. (Also offered 1952 summer term—Biology 299 (3).)

## BOTANY •

Lawson Edwin Yocum, Ph.D., *Professor of Botany, Executive Officer*  
 William Webster Diehl, Ph.D., *Adjunct Professor of Mycology*  
 Lyman Bradford Smith, Ph.D., *Professorial Lecturer on Taxonomy*  
 John Edward Cantlon, Ph.D., *Associate Professor of Botany*

*Bachelor of Arts or Bachelor of Science with a major in Botany (Columbia College—Departmental).*—Prerequisite: the Arts and Letters or the Science curriculum, respectively, in the Junior College, see pages 56–57. Required: in addition to the general requirements as stated on pages 71–76, a minimum of twenty-four credit hours in Botany beyond the introductory courses, with collaterals as recommended in conference.

*Master of Arts or Master of Science in the field of Botany (Columbia College).*—Prerequisite: the equivalent of a Bachelor of Arts or Bachelor of Science degree, respectively, from this University with a major in Botany. Required: the general requirements as stated on pages 78–80.

### FIRST GROUP

#### 1 *Structure and Functions of the Flowering Plant*† (3) Yocum, Cantlon

The typical plant as a working mechanism, with the emphasis on the general biological significance of plant physiology. Material fee, \$5. Lecture (2 hours); laboratory (2 hours)—morning, afternoon, and evening sections. (Also offered 1952 summer term.)

Botany 12, same as 1, offered spring term. Morning and afternoon sections.

#### 2 *Survey of the Plant Kingdom* (3) Yocum, Cantlon

Study of the different kinds of plants, with emphasis on the evolution of the plant kingdom; practice in identifying flowering plants. Material fee, \$5. Lecture (2 hours); laboratory (2 hours)—morning, afternoon, and evening sections. (Also offered 1952 summer term.)

### SECOND GROUP

#### 105 *Field Botany* (3) Cantlon

Field trips to neighboring localities of botanical interest, with classroom study. Prerequisite: Botany 1 and 2 or Biology 1–2. Lecture (2 hours); laboratory (4 hours); field trips (3 hours). 1953 and alternate summer terms.

#### 107 *Algae, Fungi, and Mosses* (3)

Field and laboratory study of the habitat, structure, and identification of representative local forms of algae, fungi, and mosses. Prerequisite: Botany 1 and 2 or Biology 1–2. (Not offered in 1952–53.)

\* See also the departments of Biology and Zoology.

† Before completing registration for Botany 1, each student must obtain from the representative of the Department an assignment to a laboratory section.



- 109 *Plant Morphology* (3) Yocum  
Survey of structure of root, stem, leaf, and flower of seed plants; followed by the application to several of the economically important families. Prerequisite: Botany 1 and 2 or Biology 1-2. Lecture (2 hours); laboratory (2 hours). 1952-53 and alternate years, afternoon.
- 116 *Plant Growth* (3) Yocum  
The functions of plants with special emphasis on the practical problems of growing and of caring for plants. Prerequisite: Botany 1 and 2 or Biology 1-2. Lecture (2 hours); laboratory (2 hours). 1952-53 and alternate years, afternoon.
- 118 *Physiology of Bacteria and Fungi* (3) Yocum  
Lectures, literature reviews, and laboratory studies of the physiology of bacteria and fungi. Prerequisite: Botany 1 and 2 or Biology 1-2. (Not offered in 1952-53.)
- 125-26 *Plant Taxonomy* (3-3) Smith  
A study of the characteristics, phylogeny, and economics of selected families of the flowering plants. Field collection and identification. Prerequisite: Botany 1 and 2 or Biology 1-2. Material fee, \$5. Lecture (1 hour); laboratory and field (4 hours). 1952-53 and alternate years, evening.
- 131-32 *Mycology* (3-3) Diehl  
Lecture (1 hour); laboratory (4 hours). 1953-54 and alternate years, evening.
- 133-34 *Plant Pathology* (3-3) Diehl  
Material fee, \$6 a term. (Not offered in 1952-53.)
- 135-36 *Plant Physiology* (3-3) Yocum  
Fall term: mineral and water relations of plants; spring term: organic syntheses and growth. Prerequisite: Chemistry 11-12. Material fee, \$6 a term. 1953-54 and alternate years, evening.
- 138 *Growth Regulators* (3) Yocum  
Lectures, literature reviews, and laboratory studies of the physiology of growth regulators and their functions in plants and animals. Prerequisite: Botany 1 and 2 or Biology 1-2. (Not offered in 1952-53.)
- 141-42 *Plant Ecology* (3-3) Cantlon  
Lecture (2 hours); laboratory (2 hours). 1952-53 and alternate years, evening.
- 143 *Introduction to Plant Geography* (3) Cantlon  
A study of the basic principles and methods of plant geography. Prerequisite: Botany 1 and 2 or Biology 1 and 2. 1953-54 and alternate years, evening.
- 144 *The Vegetation of North America* (3) Cantlon  
Lectures, seminars, and laboratory on the characteristic vegetations of North America with emphasis on the United States. Prerequisite: Botany 1 and 2 or Biology 1 and 2. 1953-54 and alternate years, evenings.

## THIRD GROUP

- |         |  |           |
|---------|--|-----------|
| 221-22  | <i>Seminar: Taxonomy (3-3)</i><br>(Not offered in 1952-53.)  | Smith     |
| 235-36  | <i>Seminar: Physiology (3-3)</i><br>1952-53 and alternate years. Time to be arranged.              | Yocum     |
| 241-42  | <i>Seminar: Ecology (3-3)</i><br>(Not offered in 1952-53.)   | Cantlon   |
| 295-96  | <i>Research (arr.)</i><br>Time, credits, and fees to be arranged. (Also offered 1952 summer term.) | The Staff |
| 299-300 | <i>Thesis (3-3)</i><br>Time to be arranged. (Also offered 1952 summer term.)                       | The Staff |

## BUSINESS ADMINISTRATION

Richard Norman Owens, Ph.D., C.P.A., *Professor of Business Administration*

Harold Griffith Sutton, M.S., *Professor of Finance*

Joe Lee Jessup, M.B.A., *Professor of Business Administration*

James Carlton Dockeray, Ph.D., *Professorial Lecturer in Business Administration*

Montell Ernest Ogdon, Ph.D., *Professorial Lecturer in Business Administration*

Alfred Ernest Lampe, B.S., C.P.C.U., *Professorial Lecturer on Insurance*

John Robert Beishline, Ph.D., *Professorial Lecturer in Business Administration*

Joseph Leo Krieger, M.B.A., *Professorial Lecturer in Business Administration*

Carl William Clewlow, A.M., *Professorial Lecturer in Business Administration*

Eugene Fields, B.S., C.P.C.U., *Professorial Lecturer on Insurance*

Merle Talmadge Welshans, Ph.D., *Associate Professor of Business Administration, Executive Officer*

Gordon Barnewall, M.B.A., *Assistant Professor of Business Administration*

Ingolf Helgi Elfried Otto, A.M., C.P.C.U., *Associate in Business Administration*

*Bachelor of Arts in Government with a major in Business Administration (School of Government).*—For curricula see pages 159-60.

*Master of Business Administration (School of Government).*—Prerequisite: an acceptable undergraduate major in Business Administration or the equivalent. Required: the general requirements for the degree as stated on page 166.

*Doctor of Business Administration (School of Government).*—Prerequisite: a Master's degree in Business Administration or a related field, or the equivalent, and proficiency in Statistics and Accounting to the satisfaction of the Committee on Doctoral Studies. Required: thirty credit hours of graduate work beyond the Master's level, the passing of a general examination in six fields, and the writing and defending of a dissertation.

*Bachelor of Science in Engineering with an option in Business Administration (School of Engineering).*—See pages 118-20, 124-25.

*Bachelor of Arts in Education with teaching fields in Business Education (School of Education).*—Prerequisite: the Education curriculum page 58. Required: the Business Education option, pages 142-43, and the professional courses listed on pages 147-48.



## SECOND GROUP

- 101 *Business Organization and Combination* (3) Owens  
Simple and interrelated forms of business enterprise and their control by government. Morning and evening sections. (Also offered 1952 summer term.)
- 102 *Business Management* (3) Owens, Clewlow  
The management movement, organization of an enterprise, principles of management and their application to various departments of an enterprise. Morning and evening sections. (Also offered 1952 summer term.)
- 105 *Personnel Management in Industry* (3) Owens  
Organization and work of the personnel department, human relations in business. Morning. (Also offered 1952 summer term.)  
Business Administration 105x, same as 105, offered spring term. Evening.
- 106 *Problems in Personnel Management* (3) Owens  
Principles of human relations illustrated by cases drawn from business and industry. Prerequisite: Business Administration 105. Morning.
- 109 *Office Management* (3) Otto  
Organization and layout of an office, use of office machines and appliances, planning and execution of work, supervision problems. Evening.  
Business Administration 109x, same as 109, offered spring term. Evening.
- 113 *Real Estate* (3) Otto  
Fundamentals of real estate practice: leasing and property management; valuation, financing, and taxation. Evening. (Also offered 1952 summer term.)
- 116 *Urban Transportation* (3)  
Local transportation in economic development; regulation, finance, operation, and management of transit services; community planning for streets, highways, parking, and traffic control. (Not offered in 1952-53.)
- 121x *General Insurance* (3) Otto  
A general course in underlying principles of property, life, marine, and casualty insurance, and the function of insurance in the economic life of a business or individual. Prerequisite: Economics 1-2. Morning.
- 123-24 *Property and Casualty Insurance* Fields  
I and II (2-2)  
The principles and practices of property and casualty insurance with emphasis on the economics of insurance, types of carriers, contract provisions, agency and brokerage, and state regulation and supervision. Prerequisite: Business Administration 121. Evening.
- 125-26 *Property and Casualty Insurance* Lampe  
III and IV (2-2)  
The principles and practices of property and casualty insurance with emphasis on theory of probability, rates and rating, reserves, financial

statements, and investments; loss adjustment and loss prevention.  
Prerequisite: Business Administration 123-24. Evening.

127-28 *Property and Casualty Insurance* Buckler  
*IX and X (2-2)*

Principles of accounting; principles of business and personal finance; business organization and agency management. Evening.

131 *Business Finance (3)* Welshans

Basic principles involved in the financing of business enterprises. Prerequisite: Accounting 1-2. Morning. (Also offered 1952 summer term.)

Business Administration 131X, same as 131, offered spring term. Evening.

136 *Commercial Credit (3)* Welshans

Types and sources of credit information, credit relationships from the standpoint of the commercial bank and the commercial business enterprise. Prerequisite: Accounting 1-2. Evening.

138x *Investments (3)* Welshans

Analysis of factors of investment credit with application to different types of investments, proper selection of investments for various classes of investors, regulation. Prerequisite: Accounting 1-2. Evening. (Also offered 1952 summer term.)

141 *Principles of Marketing (3)* Barnewall

A survey of marketing, giving particular attention to consumption, retailing, wholesaling, and sales management; the entire marketing structure and its relation to the total economy. Prerequisite: Economics 1-2. Evening. (Also offered 1952 summer term.)

Business Administration 141X, same as 141, offered spring term. Morning.

142 *Marketing Problems (3)* Barnewall

Marketing principles applied to specific distribution policy and operating problems of retailers, wholesalers, and manufacturers handling consumer and industrial goods. Prerequisite: Business Administration 141. (Not offered in 1952-53.)

143x *Marketing Research (3)* Barnewall

Study of market research methods and techniques; sources of data; the use of market research in business operations. Morning.

145 *Sales Management (3)* Barnewall

Organization of the sales department, sales planning and forecasting, quotas, territories, performance standards, and analysis and control of distribution costs. Prerequisite: Business Administration 141. Morning. (Also offered 1952 summer term.)

146 *Sales Management Problems (3)* Jessup

Problems of marketing executives with respect to planning sales programs, territories, and salesmen's quotas; selection, training, and supervision of sales force. Prerequisite: Business Administration 145. (Not offered in 1952-53.)

- 147 *Advertising* (3) Barnewall  
Advertising as a function of marketing and merchandising; evaluation, purchase, criticism, and control of advertising; uses and limitations of advertising as a tool of management. Morning.
- 148 *Wholesaling* (3) Barnewall  
The wholesale function; organization and types; economics of wholesale authorities.  
Summer term 1952.
- 150 *Principles of Purchasing* (3) Barnewall  
Organization for purchasing, purchasing policies, market relationships, selection of merchandise, purchasing information and records. (Not offered in 1952-53.)
- 151X *Retailing* (3) Barnewall  
Principles and problems in retail merchandising, including markup, inventory valuation, and expense control; service and personnel problems. Morning.
- 158 *Traffic Management* (3)  
Organization and records of traffic department, routing of shipments, services by carriers, rates and charges, relation of shipper to transportation agencies. (Not offered in 1952-53.)
- 175 *Introduction to Foreign Trade* (3) Ogdon  
Terminology, trade usages and practices, conditions essential to successful trading, economic bases of international trade, obstacles to trade, tariffs, impact of governmental controls on private trade. Prerequisite: Economics 1-2. Evening.
- 176 *Exporting and Importing* (3) Ogdon  
Policy and operating questions of foreign trade, financing and documentation of shipments. Prerequisite: Business Administration 175. (Not offered in 1952-53.)
- 178 *Foreign Markets* (3) Ogdon  
Pattern of world trade by countries and commodities, methods of preparing market surveys, selected regional market analyses. Prerequisite: Economics 1-2. Evening.
- 191 *Business Reports and Analyses* (3) Dockeray  
Research in specific business problems and reports for management use. Open to seniors. Evening.
- 195 *Controllership* (3) Jesup  
The duties, responsibilities, and place of the controller in a business organization; relations of controller to other departments and regulatory bodies; and the controller's relation to price setting and inventories, depreciation policies, internal auditing, expense control and budgeting, and financial reports to management, stockholders, and employees. Prerequisite: Accounting 1-2. Open to seniors. Evening.
- 198 *Problems in Business Management* (3) Otto  
Principles and methods of management illustrated by cases drawn from business and industry. Prerequisite: Business Administration



102. Open to seniors. Morning. (Also offered 1952 summer term.)  
Business Administration 198x, same as 198, offered fall term.  
Evening.

## THIRD GROUP

- 231 *Corporate Financial Problems* (3) Welshans  
Financial practice in promotion, consolidation, and mergers; capital structure adjustments; and reorganization. Evening. (Also offered 1952 summer term.)
- 232 *Seminar in Business Finance* (3) Welshans  
Research in advanced financial problems. Evening. (Also offered 1952 summer term.)
- 241-42 *Seminar in Marketing* (3-3) Barnewall  
Research and reports on marketing problems. Evening.
- 273-74 *Readings in Business* (3-3) The Staff  
Advanced readings in the fields of finance, marketing, and personnel management. Time to be arranged.
- 278 *The Dynamics of Business* (3)  
An analysis of the structure of American business, including a study of trend and cyclical change in economic activity and their bearing upon governmental policy. Evening.
- 286x *Management in the Armed Forces* (3) Beishline  
Special problems of military organization and management; applicability of business management techniques to the armed forces. Evening.
- 291-92 *Seminar in Business Management* (3-3) Owens  
Research on various phases of management, including business, industrial, and personnel management. Evening. (Also offered 1952 summer term.)
- 293-94 *Business Research* (3-3) The Staff  
Time to be arranged.
- 295 *Controllership in the Federal Service* (3) Krieger  
Function of the controller in federal agencies; special problems analyzed; controller function in government and business. Evening.
- 296 *Seminar in Controllership* (3) Jessup  
Research on advanced problems of the controller, in all types of business organization and the Federal Government. Evening. (Also offered 1952 summer term.)
- 297-98 *Business Policy* (3-3) Jessup  
Problems of management are analyzed with the view of developing a practical solution; cases are used to show the problems of personnel in marketing, industrial management, finance, etc. Evening.
- 299-300 *Thesis* (3-3) The Staff  
Time to be arranged. (Also offered 1952 summer term.)

## CHEMISTRY

Colin Mackenzie Mackall, Ph.D., *Professor Emeritus of Chemistry in Residence*

Benjamin Douglass Van Evera, Ph.D., *Professor of Chemistry*

Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*

Charles Rudolph Naeser, Ph.D., *Professor of Chemistry, Executive Officer*

John Farago, Ph.D., *Research Professor of Chemistry*

William Bultman Holton, Ph.D., *Professorial Lecturer in Chemistry*

Robert Corbin Vincent, Ph.D., *Associate Professor of Chemistry*

Reuben Esselstyn Wood, Ph.D., *Associate Professor of Chemistry*

William Frederick Sager, Ph.D., *Associate Professor of Chemistry*

James Willard Harkness, B.S., Ed.M., *Assistant Professor of Chemistry*

Theodore Peter Perros, M.S., *Assistant Professor of Chemistry*

*Bachelor of Arts or Bachelor of Science with a major in Chemistry (Columbian College—Departmental).*—Prerequisite: the Arts and Letters or the Science curriculum, respectively, in the Junior College, see pages 56 and 57. The following first group courses must be included: Chemistry 11-12, 21, and 22; Mathematics 19 and 20; Physics 5, 6, 7, and 8.

Required: the general requirements, as stated on pages 71-76, including the following second group courses: Chemistry 111-12, 122, 151-52, and 135 or 155 (two credit hours). The work of the junior and senior years must be approved by the Department. The German language is strongly recommended for all majors, and both French and German are recommended for students planning to do graduate work.

*Master of Arts or Master of Science in the field of Chemistry (Columbian College).*—Prerequisite: the degree of Bachelor of Arts or Bachelor of Science, respectively, with a major in Chemistry from this University, or the equivalent. Required: the general requirements as stated on pages 78-80. The thirty hours of required work must include Chemistry 131-32, 193, 211-12, 251-52, 291-92, 299-300, and the program must include at least four credit hours of laboratory courses. On the basis of failure to pass qualifying examinations given during the first week of classes, a student may be excluded from these required courses and advised to review prerequisite courses. A reading knowledge examination in French or German (German preferred) must be passed before the second half of the work is started.

*Bachelor of Science in Engineering with an option in Chemistry (School of Engineering).*—See pages 118-20 and 124-25. The Chemistry courses required for this degree are the same as those required for the Bachelor of Science degree with major in Chemistry as itemized above.

*Bachelor of Arts in Education with a teaching field in Chemistry (School of Education).*—Prerequisite: the Education curriculum, page 58. Required: the Chemistry option, page 143, and the professional courses listed on pages 147-48.

*Registration.*—Before completing registration each student must obtain from the representative of the Department an assignment to lecture, recitation, and laboratory sections.

## FIRST GROUP

†3-4 *Survey of Physical Sciences (4-4)*

Survey of physical science. An introduction to the physical sciences including chemistry, physics, astronomy, and geology with emphasis on analysis of scientific method and its achievements rather than on the mechanics of science. A terminal course for non-science majors. Laboratory fee, \$9 a term. Lecture (3 hours); laboratory (3 hours)—morning and afternoon sections.

†11-12 *General Chemistry (4-4)*

Van Evera, Naeser,  
Harkness, Perros

Chemistry 11-12 is an elementary course in general chemistry. Prerequisite: one year of high school algebra. Laboratory fee, \$15 a term. Lecture (2 hours); laboratory (4 hours); recitation (1 hour)—morning, afternoon, and evening sections. (Also offered 1952 summer term.)

Chemistry 11x, same as 11, offered spring term. Morning, afternoon, and evening sections.

Chemistry 12x, same as 12, offered fall term. Afternoon and evening sections.

21 *Qualitative Inorganic Analysis (4)*

Vincent

Theoretical and practical study of methods of separating and identifying the more common cations and anions using semi-micro techniques. Prerequisite: Chemistry 12. Laboratory fee, \$15. Lecture (2 hours); laboratory (6 hours)—morning, afternoon, and evening sections. (Also offered 1952 summer term.)

Chemistry 21x, same as 21, offered spring term. Afternoon and evening sections.

22 *Quantitative Inorganic Analysis I (4)*

Harkness

Theory and practice of quantitative analysis by typical volumetric and gravimetric procedures. Prerequisite: Chemistry 21. Laboratory fee, \$15. Lecture (2 hours)—morning and evening sections; laboratory (6 hours)—morning, afternoon, and evening sections. (Also offered 1952 summer term.)

## SECOND GROUP

†111-12 *Physical Chemistry (5-5)*

Wood

Introduction to physical chemistry. Prerequisite: Chemistry 22 and 152; Mathematics 20; Physics 8. Laboratory fee, \$15 a term. Lecture (3 hours)—morning and evening sections; laboratory (6 hours)—afternoon, evening, and Saturday sections.

122x *Quantitative Inorganic Analysis II (4)*

Vincent

A continuation of Chemistry 22 including the theory and practice of organic reagents, electrochemistry, and colorimetry in the analysis of more complex materials. Prerequisite: Chemistry 22. Laboratory fee, \$15. Lecture (2 hours)—morning and evening sections; laboratory (6 hours)—afternoon and evening sections.

†131-32 *Inorganic Chemistry (2-2)*

Naeser

Application of modern chemical theories to inorganic substances and



reactions; detailed study, developed from the periodic table, of the descriptive chemistry of the more common elements. Prerequisite: Chemistry 152. Prerequisite or concurrent registration: Chemistry 111-12. Evening.

- 135-36 *Inorganic Chemistry: Preparations* (2-2) Naeser  
Application of the technique of inorganic chemistry to the preparation and purification of a list of selected substances. Prerequisite: Chemistry 152. Prerequisite or concurrent registration: Chemistry 111-12. Laboratory fee, \$15 a term. Laboratory (6 hours), evening. Chemistry 135x, same as 135, offered spring term. Morning.

- †151-52 *Organic Chemistry* (4-4) Mackall, Sager  
Chemistry of the compounds of carbon. Credit is not given for Chemistry 151 until Chemistry 152 is completed. Prerequisite: Chemistry 21. Chemistry 151.—Laboratory fee, \$9. Lecture (3 hours)—morning and evening sections; laboratory (3 hours)—afternoon and evening sections. Chemistry 152.—Laboratory fee, \$15. Lecture (2 hours)—morning and evening sections; laboratory (6 hours)—afternoon and evening sections. (Also offered 1952 summer term.)

- 155 *Organic Chemistry: Preparations* (2 or 3) Wrenn  
The synthesis of organic compounds and the application of the technique of organic chemistry to the preparation of pure compounds, using larger amounts and greater refinements than in Chemistry 151-52. Prerequisite: Chemistry 22 and 152. Laboratory fee, \$9 a credit hour. Time to be arranged. Chemistry 155x, same as 155, offered spring term. Time to be arranged.

- 156 *Qualitative Organic Analysis* (3) Wrenn  
The identification of pure organic compounds, the separation of mixtures, and the identification of their components. Required of all students planning thesis work in the field of Organic Chemistry. Prerequisite: Chemistry 22 and 155. Laboratory fee, \$15. Lecture (1 hour); laboratory (6 hours)—time to be arranged.

- 191x *History of Chemistry* (2) Mackall  
The development of chemistry, and the biographies of eminent contributors to the science. Prerequisite: Chemistry 22 and 152. 1953-54 and alternate years.

- 193 *Chemical Literature* (1) Wrenn  
A general course in chemical literature with reference work and reports. Prerequisite: Chemistry 22 and 152; prerequisite or concurrent registration: Chemistry 111-12. Evening.

### THIRD GROUP

- 203 *Chemical Kinetics* (2) Wood  
The rates of chemical reactions and the factors influencing them. Prerequisite: Chemistry 112. 1953-54 and alternate years, evening.

- 211-12 *Advanced Physical Chemistry* (2-2) Wood  
Development of the principles of thermodynamics and kinetic theory.

and their application to chemical problems. Prerequisite: Chemistry 112. Evening.

216x *Statistical Mechanics* (3) Sager

An introduction to classical and quantum statistics designed to acquaint the student with the basic principles and application of the method. Prerequisite or concurrent registration: Chemistry 212, or permission of instructor. 1952-53 and alternate years, evening.

221-22 *Advanced Analytical Chemistry* (2 or 3)

A study of the theory and application of chemical and physico-chemical methods of analysis. Prerequisite: Chemistry 22 and 122. The lectures may be taken for 2 credits a term without the laboratory work. Laboratory fee, \$9 a term. 1953-54 and alternate years—lecture (2 hours), evening; laboratory (3 hours—optional), time to be arranged.

226 *Quantitative Organic Analysis* (3) Vincent

Micro and semi-micro procedures. Prerequisite: Chemistry 122 and 152; permission of the instructor. Laboratory fee, \$15. Time to be arranged.

†231-32 *Special Topics in Inorganic Chemistry: the Chemistry of the Less Familiar Elements* (2-2) Holton

Prerequisite: Chemistry 132 and 152. 1952-53 and alternate years, evening.

233-34 *Radiochemistry* (2-2)

The preparation, properties, and uses of radioactive isotopes, both natural and artificial. Prerequisite: Chemistry 131-32. (Not offered in 1952-53.)

251-52 *Advanced Organic Chemistry* (3-3) Wrenn

The syntheses, reactions, and properties of carbon compounds; the fundamental theories of organic chemistry. Prerequisite: Chemistry 152; prerequisite or concurrent registration: Chemistry 111-12 and 193. Evening.

253 *Advanced Synthetic Organic Chemistry* (3) Wrenn

A critical study of the reactions employed in the synthesis of organic compounds. Prerequisite: Chemistry 251. Time to be arranged.

257x *Theoretical Organic Chemistry* (3) Sager

Prerequisite: Chemistry 252. A survey of modern theories of organic chemistry with emphasis on reaction mechanisms. 1953-54 and alternate years, evening.

258 *Special Topics in Organic Chemistry* (2) Farago

Prerequisite: Chemistry 251-52. 1952-53 and alternate years, evening.

291-92 *Seminar: Recent Developments in Chemistry* (1-1) The Staff

Individual investigations of special problems. All students registered for a Master's degree in Chemistry are expected to attend this seminar during residence for the degree, and to take part in its programs.

Credit for participation in the seminar work may be obtained by registering for this course during the last two terms of residence; this credit, however, is based upon the seminar work during the entire period of residence. Evening.

295-96 *Research* (arr.)

Research on problems approved by the Staff. Open to qualified students with advanced training. Laboratory fee, \$6 a credit hour. Time and credits to be arranged. (Also offered 1952 summer term.)

The Staff

299-300 *Thesis* (3-3)

Laboratory fee, \$15 a term. Time to be arranged. (Also offered 1952 summer term.)

The Staff



## CIVIL ENGINEERING

Carl Hugo Walther, B.E., M.C.E., *Professor of Civil Engineering*  
 Bruce Douglas Greenshields, C.E., Ph.D., *Professor of Civil Engineering*  
 Martin Alexander Mason, Ing.-Dr., *Professor of Civil Engineering*  
 Raymond Pugh Eyman, C.E., *Associate Professor of Civil Engineering*  
 Haaren Albert Miklofsky, B.C.E., M.Eng., D.Eng., *Associate Professor of Civil Engineering, Executive Officer*  
 James Joseph Kerley, Jr., A.B. in C.E., *Assistant Professor of Civil Engineering*

*Bachelor of Civil Engineering (School of Engineering).*—See pages 119-21 for statement of requirements.

*Civil Engineer (School of Engineering).*—See page 125 for statement of requirements.

### FIRST GROUP

- 2 Plane Surveying (2)**

Principles, methods, and instruments used in surveying; with field work. Prerequisite: Trigonometry. Surveying fee, \$12. Lecture (1 hour)—morning and evening sections; field work (3 hours)—morning and afternoon sections.

**Eyman**
- 15 Navigation (3)**

Principles, methods, and instruments used in surface and aerial navigation. Charts, piloting, dead-reckoning, nautical astronomy, position determination. Prerequisite: Trigonometry. Evening.

**Eyman**
- 21 Analytical Mechanics:**

**Statics (2)**

Composition and resolution of forces; axial stresses, centroids; friction. Prerequisite: Physics 6, prerequisite or concurrent registration; Mathematics 20. Morning and evening sections.

**Greenshields and Staff**
- 22 Analytical Mechanics:**

**Dynamics (3)**

Kinematics of a particle; kinetics of a body in translation, rotation, and plane motion; work and energy; impulse and momentum; simple vibrations. Prerequisite: Civil Engineering 21. Morning and evening sections.

**Greenshields and Staff**
- 23 Higher Surveying (4)**

Elements of geodesy, triangulation, topography, hydrography, and precise and trigonometric leveling, with field work. Prerequisite: Civil Engineering 2. Surveying fee, \$12. Lecture (3 hours), field work (3 hours). 1952-53 and alternate years; lecture—morning; field work—Saturday morning. 1953-54 and alternate years; lecture—evening; field work—Saturday morning.

**Greenshields**

- 24 **Elementary Photogrammetry** (3)  
History and development of photogrammetry; fundamental principles, methods, and instruments used in photographic surveying and production of maps; photographic interpretation; principles of stereoscopy. Laboratory work with photographs and instruments in determination of scale, tilt, relief, and map plotting. Prerequisite: Civil Engineering 23; Physics 6. Laboratory fee, \$3. Evening.
- 25-26 **Engineering Materials** (2-2) The Staff  
Emphasis on properties and uses of nonmetallic materials such as cements, fuels, and plastics; and metallic materials including steel, copper, aluminum, and alloys. Prerequisite or concurrent registration: Chemistry 12. Morning and evening sections.

## SECOND GROUP

- 123 **Strength of Materials** (3) Greenshields, Kerley  
Tension, compression, shear, flexure, and torsion; deflection; combined and working stresses. Prerequisite: Civil Engineering 22. Morning and evening sections.
- 136 **Hydraulics** (3) Mason, Kerley  
Hydrostatics: flow through pipes and open channels; laminar and turbulent flow. Prerequisite: Civil Engineering 22. Morning and evening sections.
- 140 **Materials and Hydraulics** Greenshields, Kerley  
**Laboratory** (2)  
Determination of the properties of materials by mechanical tests, and a study of the flow of fluids. Prerequisite: Civil Engineering 123; prerequisite or concurrent registration: Civil Engineering 26 and 136. Laboratory fee, \$9. Laboratory (3 hours)—afternoon and evening sections.  
Civil Engineering 140x, same as 140, offered fall term. Evening.
- 141 **Graphic Statics** (3) Walther, Miklofsky  
Fundamental principles; analyses of beams; determination of stresses in roof trusses and framed bents. Prerequisite or concurrent registration: Civil Engineering 123. Drafting-room fee, \$2. Lecture (2 hours)—morning and evening sections; drafting rooms (3 hours)—afternoon and evening sections.
- 142 **Bridge Stresses** (3) Miklofsky  
Determination of stresses in modern types of bridge trusses. Prerequisite: Civil Engineering 141. Drafting-room fee, \$2. Lecture (2 hours)—morning and evening sections; drafting room (3 hours)—afternoon and evening sections.
- 147-48 **Structural Design** (2-2) Walther  
Computations and drawings for the design of steel structures. Prerequisite: Civil Engineering 142. Drafting-room fee, \$5 a term. Drafting room (6 hours)—afternoon and evening sections.

\* Evening section to be offered in 1953-54 and alternate years.

- 149-50 *Concrete and Masonry Construction\** (3-3) Miklofsky  
Plain concrete, general properties and theory of reinforced concrete, foundations, and retaining walls. Prerequisite: Civil Engineering 25 and 123. Civil Engineering 149, laboratory fee, \$9; Civil Engineering 150, drafting-room fee, \$2. Lecture (2 hours)—evening; laboratory (3 hours)—evening.
- 151-52 *Statically Indeterminate Structures* (2-2) Walther  
A study of such structures as continuous spans, rigid frames, and arches by methods of work, slope deflection, and moment distribution. Prerequisite: Civil Engineering 142. Evening.
- 154 *Advanced Mechanics of Materials* (3) Walther  
Advanced topics in the mechanics of materials. Stresses at a point, thick cylinders, general bending, torsion, localized stress, and stress concentration. Prerequisite: Civil Engineering 25-26 and 123. 1952-53 and alternate years, evening.
- 156 *Prestressed Concrete* (3)  
A study of the properties and theory of prestressed concrete, with applications to the design of prestressed concrete structures. Prerequisite: Civil Engineering 123 and 149. Laboratory fee, \$3. 1953-54 and alternate years; lecture (2 hours), laboratory (3 hours)—evening.
- 164 *Highway Engineering\** (3) Greenshields  
Highway economics, location, construction, and maintenance. Prerequisite: Civil Engineering 25 and 171. Evening.
- 171 *Route Surveying\** (3) Eyman  
Curves and earthwork, and methods of location as used on railroads and highways; field work; complete highway location. Prerequisite: Civil Engineering 2. Surveying fee, \$12. Lecture (2 hours)—evening; field work (3 hours)—Saturday morning.
- 181-82 *Water Supply and Sewerage* (3-3) Kerley  
Collection, storage, purification, and distribution of water; sewerage systems and treatment of sewage. Prerequisite: Civil Engineering 136; Chemistry 12. 1952-53 and alternate years, morning. 1953-54 and alternate years, evening.
- 187-88 *Engineering Contracts and Specifications* (2-2) Walther  
Contract essentials, types, and legal principles; analysis and preparation of specifications. Prerequisite or concurrent registration: Civil Engineering 25-26. Evening.
- 189-90 *Civil Engineering Proseminar* Greenshields, Walther  
(1-1)  
Evening.

\* Morning session to be offered in 1953-54.



## CLASSICAL LANGUAGES AND LITERATURES

John Francis Latimer, Ph.D., *Associate Professor of Classical Languages and Literatures, Executive Officer*

The Department of Classical Languages and Literatures offers two types of courses: (1) those which illustrate the literary, linguistic, and cultural backgrounds of Western Civilization, and for which no knowledge of the ancient languages is required. These courses are designed to supplement and strengthen the broad general backgrounds of students who plan to concentrate in the fields of English or other literatures, History, Art, Drama, or Philosophy, or of those who wish to increase their general knowledge and appreciation of the bases of the great humanistic traditions as part of a well-rounded education. (2) Two years of Latin are offered for those who wish to fulfill the language requirements of the Junior College as set forth on page 55.

### COURSES IN ENGLISH TRANSLATION

#### FIRST GROUP

- 71-72 *Greek and Roman Backgrounds in Literature* Latimer  
(3-3)  
Selected Greek and Roman masterpieces and their literary influence.  
1953-54 and alternate years.

#### SECOND GROUP

- 109X *Greek and Latin in Current English* (3) Latimer  
Derivation, meaning, and use of all varieties of current English words stemming from Latin and Greek. Principles of vocabulary building. Scientific and technical terms included as needs of the class indicate. Morning.
- 110X *Greek and Roman Selected Plays* (3) Latimer  
Morning.

### LANGUAGE COURSES

#### FIRST GROUP

- †1-2 *First-year Latin* (3-3) Latimer  
Functional presentation of the essentials of the language, with appropriate reading selections. Development of English derivatives, and introduction to Roman life and literature. Evening.
- †3-4 *Second-year Latin* (3-3) Latimer  
A continuation of the preceding course, but with increased emphasis on reading Latin selections which illustrate Roman life and literature. Continuation of vocabulary building in English. Prerequisites: Latin 1-2 or two years of high school Latin. Evening.

## DERMATOLOGY AND SYPHILOLOGY

Harry Ford Anderson, M.D., *Professor of Dermatology and Syphilology, Executive Officer*  
 George William Creswell, A.B., M.D., *Assistant Clinical Professor of Dermatology and Syphilology*  
 Hayden Kirby-Smith, B.S., M.D., *Assistant Clinical Professor of Dermatology and Syphilology*  
 Theodore Claremont Chen Fong, M.D., *Associate in Dermatology and Syphilology*  
 James Quincy Gant, Jr., M.S., M.D., *Associate in Dermatology and Syphilology*  
 Wendell Melvin Willett, M.D., *Associate in Dermatology and Syphilology*  
 Reuben Goodman, M.D., *Clinical Instructor in Dermatology and Syphilology*

313-14 *Dermatology and Syphilology* The Staff  
 Lectures on diseases of the skin and syphilis. One hour a week.

316 *Neurosyphilis* Fong  
 Lectures, clinical demonstrations, and practical diagnostic and therapeutic procedures. One hour a week for eight weeks.

317-18 *Clinic* The Staff  
 Case demonstrations, diagnosis, and treatment of skin diseases and syphilis. Three hours a week. Gallinger Hospital.

407-8 *Clinic* The Staff  
 Dermatology and syphilology in infants and children. Childrens Hospital. Two hours a week.

409-10 *Clinic* The Staff  
 Clinical demonstration, diseases of the skin. Two hours a week. Emergency Hospital.

411-12 *Clinic* The Staff  
 Clinical demonstrations, diseases of the skin, and diagnosis and therapy of syphilis. Two hours a week. University Hospital.

## ECONOMICS

- Arthur Edward Burns, Ph.D., *Professor of Economics*  
 Donald Stevenson Watson, Ph.D., *Professor of Economics*  
 James Christopher Corliss, A.M., *Adjunct Professor of Inter-American Economics*  
 Gerhard Colm, Dr. rer. pol., *Professorial Lecturer in Economics*  
 Ralph Aubrey Young, M.B.A., Ph.D., *Professorial Lecturer in Economics*  
 Jacques Jacobus Polak, Ph.D., *Professorial Lecturer in Economics*  
 Edward Campion Acheson, Ph.D., *Associate Professor of Finance*  
 Albert Raymond Miller, Jr., A.M., *Assistant Professor of Economics*  
 James Coogan, Ph.D., *Assistant Professor of Economics, Executive Officer*  
 Walter David Fackler, A.B., *Assistant Professor of Economics*  
 George Jaszi, Ph.D., *Lecturer in Economics*  
 Wilson Emerson Schmidt, A.M., *Instructor in Economics*

*Bachelor of Arts with a major in Economics (Columbia College—Departmental).*—Prerequisite: the Arts and Letters curriculum in the Junior College, including Economics 1-2 and Statistics 51, see page 56. Required: (1) Economics 101 and three additional credit hours in economic theory (courses numbered 100-109); (2) six credit hours in each of three of the five following groups: finance (courses numbered 120-29), labor (courses numbered 140-49), government and economic policy (courses numbered 160-69), public utilities and transportation (courses numbered 170-79), and international economics (courses numbered 180-92); (3) Statistics 111-12, and nine credit hours of other second-group courses selected from the following departments—Accounting, Business Administration, History, Philosophy, Political Science, Sociology, and Statistics.

*Bachelor of Arts with a major in Latin American Civilization and Culture (Columbia College—Field-of-Study).*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Required: the general requirements stated on pages 71-76, and the grade of "pass" on the Latin American Civilization and Culture major examination at the end of the senior year. The coordinated field of knowledge upon which the student will be examined includes the political and social history, the economic development, the governmental structure, and international relations, the principal literary works and writers, and a reasonable acquaintance with the spoken language of the Latin American republics. The Department of Economics provides a proseminar (Economics 193-94) intended to assist the student in preparing himself for the major examination. For further details, see the pamphlet, which is available in the Office of the Dean of Columbia College.

*Master of Arts in the field of Economics (Columbia College).*—Prerequisite: the degree of Bachelor of Arts with a major in Economics at this University, or the equivalent. Required: the general requirements for the degree are stated on pages 78-80. The thirty hours of required work must include Economics 201-2 and a minimum of six credit hours chosen from Economics courses numbered from 203 to 218.



*Bachelor of Science in Engineering with an option in Economics (School of Engineering).*—See pages 118-20 and 124-25.

For information concerning *Bachelor of Arts* and *Master of Arts* curricula in the School of Government with courses in Economics, see pages 157-66.

## FIRST GROUP

1-2 *Principles of Economics\** (3-3)

The Staff

Survey of the major economic principles, institutions and problems in contemporary economic life. Economics 1 is prerequisite to Economics 2. Morning and evening sections. (Also offered 1952 summer term.)

Economics 1x, same as 1, offered spring term. Morning and evening sections.

Economics 2x, same as 2, offered fall term. Morning and evening sections.

## SECOND GROUP\*

101 *Economic Theory* (3)

Watson, Coogan

Introduction to formal economic theory; advanced analysis of demand, supply, and price relations. Morning and evening sections. (Also offered 1952 summer term.)

Economics 101x, same as 101, offered spring term. Morning and evening sections.

102 *History of Economic Thought* (3)

Miller

History of the major schools of economic thought; influence of changing problems on theory. Evening. (Also offered 1952 summer term.)

105 *Business Cycles* (3)

Miller

Analysis of strategic factors in economic instability; survey of recent business-cycle theories. Morning.

108 *The National Income* (3)

Miller

The measurement, composition, and determinants of the national income. Morning.

109 *Distribution Theory and Welfare Economics* (3)

Miller

Advanced economic theory with emphasis on income distribution and the literature on welfare economics. Prerequisite: Economics 101 or the equivalent.

Summer term 1952.

121 *Money and Banking* (3)

Acheson

Theory of money, credit, and banking; commercial banking and the Federal Reserve System; other financial institutions; international aspects of money; current financial problems. Morning and evening sections. (Also offered 1952 summer term.)

Economics 121x, same as 121, offered spring term. Evening.

122 *The Supply and Control of Money* (3)

Acheson

Factors determining the effect of bank policy and government finance

\* Economics 1-2 is prerequisite to all other courses in economics.

- on the volume of purchasing power and level of prices; historical development; current practice and problems. Prerequisite: Economics 121. Evening.
- 123 *Monetary Theory* (3) Acheson  
Principal contemporary theories; background of recent monetary policy. Prerequisite: Economics 121. 1952-53 and alternate years, morning. 1953-54 and alternate years, evening.
- 126 *Foreign Exchange and International Finance* (3) Acheson  
Theory and practice of foreign exchanges; the gold standard and international finance during the nineteenth century; war and postwar exchange problems. Prerequisite: Economics 121. Morning.
- 133X *The Economy of the Soviet Union* (3) Coogan  
Development and main features of the economic life of the Soviet Union. Morning. (Also offered 1952 summer term.)
- 141-42 *Labor Economics* (3-3) Miller  
Wages, hours, and employment; labor organizations; labor legislation and the federal administrative boards. Morning.
- 144 *Labor Movements* (3) Miller  
Survey of growth and types of labor unions, development and problems of collective bargaining. (Not offered in 1952-53.)
- 146 *Economic Security and Social Insurance* (3) Miller  
Economic and social problems of unemployment; analysis of the federal and other social security programs. (Not offered in 1952-53.)
- 161-62 *Public Finance and Taxation* (3-3) Fackler  
General survey of government expenditures, sources and methods of taxation, economic effects of expenditures and taxes, and of government debt policies. Evening.
- 165 *Government Control of Economic Activity* (3) Watson  
Changing role of government in promoting and regulating economic activity; types and spheres of control. Evening.
- 166 *Comparative Systems of Economic Reform* (3) Watson  
Critical analysis of the major theories of economic and social reform with special attention to their origins and backgrounds. Summer term 1952.
- 167 *Economics of Planning* (3) Watson  
Analytical comparison of economic systems coordinated by market price with those coordinated by central authority. (Not offered in 1952-53.)
- 172 *Public Utilities* (3)  
The economics of public utilities with emphasis on regulation, valuation, and rate-making. (Not offered in 1952-53.)

- 175 *Railroad Transportation* (3) Kennedy  
Railroad history, organization, rate-making theory and practice, with emphasis on the work of the Interstate Commerce Commission. 1953-54 and alternate years.
- 176 *Motor, Air, and Water Transportation* (3) Kennedy  
History, organization, competition, rates, and regulation of motor, air, and water carriers; coordination of transportation. 1953-54 and alternate years.
- 181-82 *International Economics* (3-3) Schmidt  
Survey of world economics; theories of international trade; analysis of international economic problems; the international organizations. Afternoon and evening sections. (Also offered 1952 summer term.)
- 183-84 *International Economic Policy* (3-3) Schmidt  
Historical and theoretical analysis of tariffs, exchange rates, exchange and trade control, discrimination, and capital movements; policies related thereto. Morning.
- 185-86 *Economic History and Problems of South America* (3-3) Corliss  
Economic development of South America (excluding Colombia and Venezuela). Particular emphasis on economic developments and problems since the First World War. 1952-53 and alternate years, evening.
- 187-88 *Economic History and Problems of the Caribbean Area* (3-3) Corliss  
Economic developments of Colombia, Venezuela, Mexico, and the Central American and West Indian republics. Particular emphasis on economic developments and problems since the First World War. 1953-54 and alternate years, evening.
- 191 *United States Foreign Economic Policy Since 1934* (3) Schmidt  
The Reciprocal Trade Agreements program; monetary agreements; the economic aspects of lend-lease, the Marshall Plan, and other foreign aid programs; the United States and the international organizations. (Not offered in 1952-53.)
- 193-94 *Proseminar in Latin American Civilization and Culture* (3-3) Corliss  
Coordination and review course. Open only to students majoring in Latin American Civilization and Culture. Time to be arranged.
- 198 *Readings in Economics* (3) The Staff  
Comprehensive survey of economics. Open only to students whose major is economics and who are in their last term. Time to be arranged.  
Economics 198x, same as 198, offered fall term. Time to be arranged.



## THIRD GROUP

- 201-2 *History and Literature of Economic Thought* (3-3) Burns  
Critical analysis and interpretation of the development and the literature of economic thought; origins and problems of the major types of theory; their relation to present problems and policies. Evening.
- 203-4 *Contemporary Economic Theory* (3-3) Watson  
The contributions of Marshall, Chamberlin, Robinson, Hicks, and others. Evening.
- 205x *Business Cycle Theory* (3) Polak  
The contributions of the pre-Keynesian writers. Evening.
- 206 *Theory of Employment and Income* (3) Miller  
Determinants of the level of employment and income; Keynes's and classical systems contrasted; recent literature on the subject. Evening.
- 208 *The National Income* (3) Jaszi  
The theory of economic aggregates; policy aspects of national income. Evening.
- 209 *Readings in the History of Economic Thought* (3) Burns  
Research in special problems in the history of economics. Prerequisite: Economics 201-2. Evening.
- 210 *Methodology in Economics* (3) Burns  
The nature of economic theory; relations of economics to philosophy and other disciplines. (Not offered in 1952-53.)
- 211 *Readings in Advanced Economics* (3) The Staff  
Integration and coordination of advanced economic theories. Evening.
- 213 *Economic Thought in the Twentieth Century* (3) Burns  
Continuation of Economics 201-2. The principle trends in economic thought during the present century.  
Summer term 1952.
- 214 *Quantitative Economics* (3)  
Introduction to mathematical economic theories. (Not offered in 1952-53.)
- 215 *Managerial Economics* (3)  
Analysis of price, production, and inventory policies of business firms. Evening. (Also offered 1952 summer term.)
- 216 *Theories of Income Distribution* (3) Miller  
The classical, marginal, and modern theories of distribution; Pareto's Law and the problem of personal distribution.  
Summer term 1952.

- 218 *Economic Analysis and Accounting Concepts* (3) \_\_\_\_\_  
The use of accounting concepts in the economic analysis of the business enterprise, of the national income, of international economic relations. Evening.
- 223-24 *Monetary Policy and Central Banking* (3-3) Young  
The money system in its relation to national income; monetary policies of the Federal Reserve and other central banking systems. Evening.
- 225 *Economic Stabilization Policies* (3) Polak  
Appraisal of economic policies directed towards the stabilization of the economy, with special attention to the problem of full employment. Evening.
- 241 *Labor Economics* (3) Miller  
Analysis of labor problems, with special reference to labor organizations; intensive study of federal regulation and participation in capital-labor relations. Evening.
- 244 *Labor Relations* (3) Miller  
The collective bargaining contract and the elements comprising it; analysis of the policies of labor and of management. Evening.
- 251x *Theories of Economic Development* (3) Coogan  
Growth and change in economic activity; capital accumulation; innovations in technology and business organization. Evening. (Also offered 1952 summer term.)
- 260 *Theory of Public Finance* (3)  
Survey of the literature on public finance, with special attention to controversial issues. (Not offered in 1952-53.)
- 261-62 *Public Finance and Fiscal Policy* (3-3) Colm  
Survey of the major contributions to the theory and doctrines of public finance. Special problems: deficit financing; current tax problems; and federal, state, and local financial relationships. Evening.
- 265 *Theory of Economic Policy* (3) Watson  
The nature, forms, methods, and objectives of economic policy; the relation of economic theory to economic policy. Evening.
- 266 *Problems of Governmental Economic Policy* (3) Watson  
The execution of economic policies as they are affected by the processes of government. Evening.
- 267 *Economic Organization of the Soviet Union* (3) Coogan  
Development of the Russian economy; organization under the Soviets; policies and problems: monetary, fiscal, production, allocative, foreign trade, economic growth. Evening.
- 281-82 *International Economics* (3-3) Schmidt  
The modern theories of international economics; the variables determining the balance of payments; techniques to obtain balance-of-payments equilibrium. Evening.

- 285-86 *Public and Private Finance in Latin America* Corliss  
(3-3)  
Corporate finance, banking, and capital movements in Latin America; fiscal problems; public debt, deficit financing, taxation, public expenditures; foreign-exchange controls and problems. A reading knowledge of Spanish or Portuguese is required. (Not offered in 1952-53.)
- 287-88 *Economic Problems of Latin America* (3-3) Corliss  
Foreign trade and foreign commercial policy; growth of industry and agriculture; government control of economic activity; recent economic trends and problems. Evening.
- 289-90 *Problems in International Financial Policy* Acheson  
(3-3)  
International financial problems in recent decades; changes in monetary standards; the International Monetary Fund and the International Bank for Reconstruction and Development. Evening.
- 297-98 *Thesis* (School of Government majors) (3-3) The Staff
- 299-300 *Thesis* (3-3) The Staff



## EDUCATION

James Harold Fox, A.M., Ed.D., *Professor of Education, Executive Officer*

Burnice Herman Jarman, A.M., Ed.D., *Professor of Education*

Meredith Chester Wilson, B.S., *Adjunct Professor of Education*

\*Ray LaForest Hamon, Ph.D., *Professorial Lecturer in Education*

Charles Edward Bish, A.M., Ed.D., *Professorial Lecturer in Education*

\*William Ashby Early, A.M., *Professorial Lecturer in Education*

\*Erret Glenn Featherston, A.M., Ed.D., *Professorial Lecturer in Education*

John Frederick Brougher, A.M., Ed.D., *Professorial Lecturer in Education*

Blake Smith Root, A.M., Ed.D., *Associate Professor of Education*

Ralph Windsor Ruffner, A.M., Ed.D., *Associate Professor of Education*

Lewie Woodrow Burnett, A.B., Ed.D., *Associate Professor of Education*

\*Madaline Kinter Remmlein, Ph.D., J.D., *Lecturer in Education*

LuVerne Crabtree Walker, A.M., *Lecturer in Education*

Helen Barton Goodwin, A.M., *Lecturer in Education*

Florence Mary Lumsden, A.M., Ed.D., *Lecturer in Education*

William Samuel Rumbough, A.M., Ed.D., *Lecturer in Education*

Howard Odin Johnson, A.M., Ed.D., *Lecturer in Education*

Frederick Anderson Indorf, A.M., *Lecturer in Education*

Arne William Randall, A.M., *Lecturer in Education*

Raymond Ray Reed, A.M., *Lecturer in Education*

Joseph Bueol Johnson, A.M., Ed.D., *Lecturer in Education*

Mary Ellen Coleman, A.M., *Lecturer in Education*

Mary Louise Collings, A.M., *Lecturer in Education*

## CONSULTANTS IN RESEARCH

Wesley Earl Armstrong, M.S., Ed.D., *Chief for Teacher Education, U. S. Office of Education*

John Robert Ludington, Ph.D., *Specialist of Industrial Arts, U. S. Office of Education*

## FIELD SERVICE COORDINATORS

William Wallace Rich, A.M., *Supervisor of Secondary Schools, Arlington County, Virginia*

Helen King Finlay, A.M., *Assistant Principal, Washington-Lee High School, Arlington, Virginia*

\* On leave of absence 1942-53.

*Bachelor of Arts in Education (School of Education).*—Prerequisite: the Education curriculum in the Junior College or the equivalent, or a certificate of graduation from an approved normal school or the equivalent, see page 58.

Required: the satisfactory completion of a program of at least sixty-six credit hours in addition to the general education background courses in the Junior College curriculum. Each program is planned individually to meet the certification requirements of the student in major and minor teaching fields, see pages 141-47 and in professional courses, see pages 147-48.

*Master of Arts in Education (School of Education).*—Prerequisite: a Bachelor's degree from an accredited institution. Programs are planned individually. The following areas of specialization are available: (1) school administration—superintendency, secondary school principalship, or elementary school principalship; (2) adult education; (3) secondary education—the senior or junior high school; (4) elementary education—intermediate grade or early childhood education; (5) agricultural extension education; (6) curriculum; (7) employee training; (8) guidance; (9) physical education.

*Doctor of Education (School of Education).*—See pages 150-52.

#### A Reading Clinic

Diagnosis of reading difficulties; individual or group lessons without academic credit for alexia, dyslexia, and remedial cases. Fee: for diagnosis, \$25; for individual lesson, \$3.50; for group lesson, \$2.50; material fee, \$3.

Coleman and Staff

### SECOND GROUP

#### 109-110 *Learning and Teaching (3-3)*

For the general student as well as the prospective teacher. Fall term: nature of learning approached through the study of actual classroom situations. Spring term: nature of teaching approached through observation of typical classroom situations. Lecture (2 hours), conference (1 hour)—afternoon and evening sections; field work (2 hours)—to be arranged. (Also offered 1952 summer term.)

Ruffner

#### 111-112 *Elementary School Curriculum (3-3)*

Principles of elementary education, including general classroom procedures and common teaching skills. Fall term: special emphasis upon materials and methods in language arts, including reading, writing, spelling, and speech. Spring term: special emphasis upon materials and methods in social studies, and arithmetic. Late afternoon.

Burnett

#### 113 *Elementary School Art (3)*

Materials and methods. Evening.

Randall

#### 114 *Elementary School Music (3)*

Materials and methods. Evening.

Reed

#### 115 *Elementary School Classroom Procedures (3)*

For experienced teachers. Survey of current classroom practices with particular attention to the determination of children's needs and interests, providing for individual differences, and evaluation. (Not offered in 1952-53.)

Burnett

#### 116 *Elementary School Social Studies (3)*

For experienced teachers. Content and methods of teaching. Summer term 1952.

- 117 *Elementary School Science* (3)  
Materials and methods. Evening.
- 121-22 *Society and the School* (3-3)  
For the general student as well as the prospective teacher. Fall term: the local, national, and international roles of education; cooperation of the school with other community agencies. Spring term: organization and operation of schools; principles and functions. Lecture (2 hours), conference (1 hour)—afternoon and evening sections; field work (2 hours)—to be arranged. (Also offered 1952 summer term.)
- 125 *Corrective Procedures in Reading* (3) Coleman  
Study of levels, needs, materials, and corrective methods. Demonstrations and observations with clinic cases. Summer term 1952.
- 128 *Children's Literature* (3) Walker  
Exploring and evaluating the newer books for children and the children's classics, understanding the contribution of literature in child development, appreciating children's original expressions. Lecture (2 hours)—evening; field work (2 hours)—to be arranged.
- 131 *Common Teaching Skills* (3) Root  
Course, unit, and lesson planning; practical techniques used in connection with motivation, the assignment, group procedures, directing study, individual differences, evaluation, clerical routines, discipline, the homeroom, activity sponsorship, public relations. Early afternoon.
- †133-34 *Observation and Practice Teaching* (3-3) Root, Burnett  
Education 134, practice-teaching fee, \$9 a credit hour. Admission by permission of the instructor. Time to be arranged individually.

#### SPECIAL METHODS COURSES

To be elected in the senior year after substantial preparation in the teaching fields concerned. Course requirements and hours of credit vary with license requirements. Practices of successful teachers are studied and actual teaching content as found in current texts and courses of study is reviewed.

- 136 *Teaching English* (2 to 4) Lumsden  
Lecture (2 hours)—evening; field work (2 hours)—to be arranged.
- 138 *Teaching Social Studies* (2 to 4) Root  
Lecture (2 hours)—evening; field work (2 hours)—to be arranged.
- 140 *Teaching Mathematics* (3) Weida  
Late afternoon.
- 141-42 *Teaching Art* (3-3) Goodwin  
Lecture (2 hours)—Saturday morning; field work (2 hours)—to be arranged.
- 144 *Teaching Science* (2 to 4) Rumbough  
Lecture (2 hours)—late afternoon; field work (2 hours)—to be arranged.



- 146 *Teaching Foreign Languages* (2 to 4) Doyle, Keating  
Late afternoon.
- 148 *Teaching Home Economics* (2) Kirkpatrick  
Time to be arranged.
- 150 *Teaching Business Subjects* (2)  
Time to be arranged.

## THIRD GROUP

- 205-6 *The Curriculum* (3-3) Burnett  
Fall term: curriculum foundations and issues; comparison of curriculum patterns. Spring term: principles and procedures in curriculum development; group consideration of student problems. Evening  
(Also offered 1952 summer term—Education 205 (3).)
- 207 *Curriculum Materials* (3) Burnett  
The study and construction of courses of study, resource units, classroom teaching aids, and inexpensive materials; direct application to students' own situations. (Not offered in 1952-53.)
- 209-10 *Child Growth and Development* (3-3)  
Basic factors in human growth and development and their relation to learning and teaching. Related practical experience in studying children; class analyses of procedures and results. Evening.
- 212 *Evaluation in Education* (3) Ruffner  
Concept of evaluation, relationship between evaluation of ends and means, steps involved in the evaluation of learning outcomes. As the course progresses each student develops a solution for an evaluation problem related to his work situation. Evening. (Also offered 1952 summer term.)
- 213-14 *History of Education* (3-3) Jarman  
Fall term: the European backgrounds of American education. Spring term: the evolution of the American school system. Evening.
- 215 *Education of the Exceptional* (3) Indorf  
For classroom teachers. A survey of current problems in the education and guidance of exceptional pupils. Nature and needs of those physically, mentally, or emotionally handicapped; needs of the gifted. Resources for help in correction, diagnosis, therapy, education, and guidance.  
Summer term 1952.
- 217-18 *Contemporary Problems in Education* (3-3) Jarman  
Fall term: designed to help students formulate a personal philosophy of education. Spring term: social foundations of education—a study of the forces that shape the policies and offerings of the school. Evening. (Also offered 1952 summer term—Education 218 (3).)

- 219 *Recent Developments in Elementary Education* (3) Burnett  
New areas of emphasis, changing techniques of working with children, curriculum trends, review of recent literature.  
Summer term 1952.
- 221-22 *Early Childhood Education* (3-3) \_\_\_\_\_  
Fall term: nursery school and kindergarten education. Spring term: education in the primary grades. (Education 221 not offered in 1952-53.) Education 222, evening.
- 223-24 *Reading Problems* (3-3) Coleman  
A clinical approach to reading difficulties on elementary and secondary school levels. Demonstrations and observations, with clinic cases. Saturday morning.
- 227-28 *Elementary Education* (3-3) Burnett  
Fall term: elementary school programs, objectives, common characteristics, and major issues. Spring term: current methods and materials in teaching the several instructional areas and the co-curriculum. Evening.
- 229 *Administration of Elementary Education* (3) Burnett  
The principal as a school and community leader. Problems of supervision, curriculum development, parent relations, pupil guidance, and management. Evening.
- 231 *Secondary School Classroom Procedures* (3) Bish  
Survey of current classroom practices with particular attention to selected topics such as teacher-pupil planning, group procedures, pupil security, initiatory and culminating activities, individual and group evaluation techniques, teaching aids, etc.; review of recent literature. Evening. (Also offered 1952 summer term.)
- 233 *Audio-visual Education* (3) J. Johnson  
Selection and use of audio-visual aids, management of materials and equipment. Material fee, \$5. Lecture (2 hours), laboratory (2 hours)—Saturday. (Also offered 1952 summer term.)
- 247-48 *Vocational Education* (3-3) Ruffner, H. Johnson  
Fall term: development in the United States, current concepts, agencies involved, problems and trends. Spring term: learning and teaching activities, curriculum content, administration of vocational programs. (Not offered in 1952-53.)
- 251 *Guidance in Secondary Schools* (3) Brougher  
Scope; needs; organization of the program; services to students, the instructional staff, and the administration; personnel needed for the program. Evening.
- 254 *The Junior High School* (3) Bish, Root  
Purposes, organization, core programs, guidance, developing course of study, extra-classroom activities.  
Summer term 1952.

- 255-56 *Secondary Education* (3-3) Root  
 Fall term: current proposals for the reorganization of secondary education. Spring term: current problems in each of the subject-matter fields. Saturday morning. (Also offered 1952 summer term.)
- 259-60 *Secondary School Management* (3-3) Fox, H. Johnson  
 Management planning, execution, and control; criteria of good management; construction of the master schedule; leadership problems incident to the development of new policies and programs. Saturday morning.
- 263-64 *Employee Training* (3-3) Root  
 Fall term: nature and purposes, organization and administration of programs—orientation, executive, supervisory, apprentice, clerical, skills; training media and techniques; coordination with other management functions. Spring term: current practices, operating policies and programs of selected organizations. Evening.
- 271 *School Administration* (3) Fox  
 A survey course for teachers and prospective administrators. Education and world affairs, national agencies, role of the state, local administration, school finance, legal controls, school plant, public support, democratic administrative procedures, improving teaching conditions. Evening.
- 272 *The Teacher and School Supervision* (3) Fox  
 Nature, organization, human relationships, and techniques. Saturday morning. (Also offered 1952 summer term.)
- 273-74 *Administration of a School System* (3-3)  
 A comprehensive survey of the management problems of a beginning superintendent; does not anticipate previous experience as a superintendent. (Not offered in 1952-53.)
- 275 *School Finance* (3)  
 Educational financial theory, practice, and control, including methods of financing. (Not offered in 1952-53.)
- 276 *Seminar: Public Relations in School Administration* (3) Fox  
 Purposes, gathering materials, disseminating agencies, publicity media, public participation in policy-making. (Not offered in 1952-53.)
- 278 *School Law* (3) Remmle  
 Sources and scope of school law; legal rights and responsibilities of teachers, pupils, and taxpayers. Other legal problems of major interest to the group. (Not offered in 1952-53.)
- 279-80 *Adult Education* (3-3) Ruffin  
 Fall term: current concepts and objectives, agencies involved, programs on all levels—international through community. Spring term: the adult as a learner, the teacher of adults, learning-teaching activities, administration of adult education programs. Evening.



- 281 *Group Procedures in Education* (3) Ruffner  
Theory, practice, evaluation, and application to all educational levels.  
Evening. (Also offered 1952 summer term.)
- 285 *Extra-classroom Activities* (3) Root  
Nature and purposes of selected activities—homeroom, clubs, assemblies, school publications, student council, interscholastic contests; particular attention to sponsorship, participation, finance, and evaluation.  
Summer term 1952.
- 287-88 *Clinical Study of Reading Problems* (3-3)  
For advanced students. Diagnostic work under supervision in the Reading Clinic. (Not offered in 1952-53.)
- 291 *Planning the School Plant* (3) Hamon  
Selection of site; evaluation of existing buildings; utilization of present facilities; adaptation to curricular needs; building, operation, and maintenance problems. (Not offered in 1952-53.)
- 293-94 *Research* (3-3) The Staff  
Individual research under the guidance of a member of the Staff. Program and conferences arranged with an instructor.
- 295 *Educational Research Methods and Procedures* (3) Fox  
Required of all Master of Arts candidates following Plan 2. Knowledge of elementary statistics required. Evening. (Also offered 1952 summer term.)  
Education 295x, same as 295, offered spring term. Late afternoon.
- 297 *Reading in Education* The Staff  
To assist those preparing for the comprehensive examination. No credit toward degree requirements. Tuition fee, \$13. Late afternoon.  
(Also offered 1952 summer term.)  
Education 297x, same as 297, offered spring term. Late afternoon.
- 299-300 *Thesis* (3-3) The Staff  
Required of all Master of Arts candidates following Plan 1. Time to be arranged. (Also offered 1952 summer term.)

## ELECTRICAL ENGINEERING

Norman Bruce Ames, M.S., E.E., LL.B., *Professor of Electrical Engineering, Executive Officer*

Forest Klaire Harris, Ph.D., *Professorial Lecturer in Electrical Engineering*

William Sutton Carley, M.S. in E.E., *Associate Professor of Electrical Engineering*

\_\_\_\_\_, *Associate Professor of Electrical Engineering*  
Jerome Strauss Antel, Jr., B.S. in E.E., *Assistant Professor of Electrical Engineering*

Claudius Edmund Bennett, E.E., *Lecturer in Electrical Engineering*

*Bachelor of Electrical Engineering (School of Engineering).—See pages 118-20 and 121-23 for statement of requirements.*

*Electrical Engineer (School of Engineering).—See page 125 for statement of requirements.*

### FIRST GROUP

9-10 *Elements of Electrical Engineering (3-3)* Ames  
Electrical Engineering 9: magnetic and electric circuits; direct-current instruments and machines; Electrical Engineering 10: alternating-current circuits, instruments, and machines. Prerequisite: Physics 7. Prerequisite or concurrent registration: Mathematics 20. Morning and evening sections.

13-14 *Electrical Laboratory (2-2)* The Staff  
For the student not majoring in electrical engineering. Experiment: in direct- and alternating-current circuits, instruments, and machines. Prerequisite: Electrical Engineering 10. Laboratory fee, \$9 a term. Laboratory (3 hours)—afternoon and evening sections.

### SECOND GROUP

105-6 *Direct-Current Laboratory (2-2)* The Staff  
For the student majoring in electrical engineering. A course in measurements and direct-current dynamo laboratory. Prerequisite: Electrical Engineering 9-10. Laboratory fee, \$9 a term. Laboratory (3 hours)—afternoon and evening sections.

107 *Alternating-Current Circuits (3)* Ames  
Alternating-current-circuit theory. Extensive consideration is given to harmonic analysis and to the study of harmonics in both single-phase and polyphase circuits. Prerequisite: Electrical Engineering 10. Morning and evening sections.

- 108 *Alternating-Current Machinery* (3) Ames  
Transformers and polyphase induction motors. Prerequisite: Electrical Engineering 107. Morning and evening sections.
- 109 *Alternating-Current Machinery* (3) Antel  
Synchronous generators and motors, single-phase motors, converters, mercury arc rectifiers. Prerequisite: Electrical Engineering 108. Morning and evening sections.
- 111-12 *Electrical Measurements* (2-2) Antel, Harris  
Theory of direct-current and alternating-current instruments, bridges, and meters. Prerequisite or concurrent registration: Electrical Engineering 107. Morning and evening sections.
- 118 *Advanced Network Theory I* (3) Carley  
Theory of resonance, linear networks, transmission lines, and filters. Prerequisite: Electrical Engineering 107. Morning and evening sections.
- 119 *Advanced Network Theory II* (3) Carley  
Theory of transmission at UHF and VHF frequencies including Maxwell's equations, wave guides, and methods of power generation at these frequencies. Prerequisite: Electrical Engineering 118 and Physics 132. Prerequisite or concurrent registration: Electrical Engineering 142; Physics 133. Morning and evening sections.
- 120 *Advanced Network Laboratory I* Carley, ———  
(2)  
A laboratory course associated with Electrical Engineering 118. Laboratory fee, \$9. Laboratory (3 hours)—afternoon and evening sections.
- 121 *Advanced Network Laboratory II* Carley, ———  
(2)  
A laboratory course associated with Electrical Engineering 119. Prerequisite: Electrical Engineering 120. Laboratory fee, \$9. Laboratory (3 hours)—afternoon and evening sections.
- 129 *Symmetrical Components* (3) ———  
Theory and application of symmetrical components in unbalanced circuits, alternating-current machinery, and transmission lines. Prerequisite: Electrical Engineering 108. Evening.
- 130 *Principles of Electric Power Transmission* (3) Antel  
Mechanical and electrical characteristics of transmission lines, approximate and rigorous solutions by means of hyperbolic functions, steady-state and elementary transient considerations, the more important phases of distribution of electrical energy. Prerequisite: Electrical Engineering 129. Evening.
- 133-34 *Alternating-Current Laboratory* (2-2) The Staff  
A continuation of Electrical Engineering 105-6, with experiments on alternating-current circuits, instruments, and machinery. Prerequisite: Electrical Engineering 106 and 108. Laboratory fee, \$9 a term. Laboratory (3 hours)—afternoon and evening sections.



- 138 *Industrial Electrical Power Applications* (2) Antel  
The characteristics of the various types of electrical motors and other power appliances and the principles governing their applications in industry. Prerequisite: Electrical Engineering 10. Evening.
- 139 *Illumination Engineering* (2) Antel  
Principles and practices in present-day illumination engineering. Prerequisite: Electrical Engineering 10. Evening.
- 140 *Electrical Design* (3) Antel  
Principles of design, with reference to materials of construction and electrical equipment. Practical exercises are assigned in connection with classroom work. Prerequisite: Electrical Engineering 109. Lecture (2 hours); laboratory (3 hours)—evening.
- 142x *Radio-wave Propagation* (3) Carley, —  
Theory of the radiation and propagation of electromagnetic waves in space, with consideration of practical application to radio problems. Prerequisite: Electrical Engineering 118. Morning and evening sections.
- 148 *Applications of Electronic Devices* (3) Carley  
Practical applications of electronic devices such as power supplies, voltage regulators, multivibrators, electronic counters, and servo-mechanism. Prerequisite: Physics 133. Evening.
- 150 *Electronic Devices Laboratory* (2) The Staff  
A laboratory course associated with Electrical Engineering 148. Laboratory fee, \$9. Afternoon and evening sections.
- 189-90 *Proseminar in Electrical Engineering* Bennett and Staff  
(1-1)  
Prerequisite: Electrical Engineering 108. Afternoon and evening sections.

## ENGLISH

- Robert Whitney Bolwell, Ph.D., *Professor of American Literature*  
 \*Ernest Sewall Shepard, A.M., *Professor of English Literature*  
 George Winchester Stone, Jr., Ph.D., *Professor of English Literature*  
 Fred Salisbury Tupper, Ph.D., *Professor of English Literature*  
 Calvin Darlington Linton, Ph.D., *Professor of English Literature*  
 Charles William Cole, Ph.D., *Professor of American Literature, Executive Officer*  
 William Lewis Turner, A.M., *Associate Professor of English*  
 Robert Hamilton Moore, Ph.D., *Associate Professor of English Composition*  
 Averett Howard, A.M., *Associate Professor of English Composition*  
 Muriel Hope McClanahan, Ph.D., *Associate Professor of English Composition*  
 James Harold Coberly, Ph.D., *Associate Professor of American Literature*  
 Martin Steele Day, Ph.D., *Assistant Professor of English*  
 Phyllis Nichols Rowe, A.M., *Assistant Professor of English*  
 Vera Lillian Mowry, Ph.D., *Assistant Professor of English*  
 John Gage Allee, Jr., A.M., *Assistant Professor of English*  
 ‡Ruth Elsie Jones, A.M., *Assistant Professor of English Composition*  
 Philip Ingram Herzbrun, A.B., *Instructor in English Composition*  
 Curtis Drake Cecil, Jr., A.B., *Instructor in English Composition*  
 Raymond Howard Reno, A.M., *Instructor in English Composition*

*Bachelor of Arts with a major in American Thought and Civilization (Columbian College—Field-of-Study).*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56, which should include English 71-72, History 71-72, Art 71-72, and Philosophy 51-52.

Required: the general requirements stated on pages 71-76 and the grade "pass" on the American Thought and Civilization major examination at the end of the senior year. The coordinated field of knowledge upon which the student will be examined is summarized under four general headings: (1) European cultural history—the Renaissance and modern social and intellectual cultures as a background to contemporary civilization with particular attention to English literature and history from the 16th through the 19th centuries; (2) American history—the political, economic, social, and religious thought and experience of the American people; (3) American philosophy and fine arts—a survey of periods and movements with a knowledge of outstanding individuals; (4) American literature—a knowledge of major writers, together with a study of poetry, fiction, and drama. The Department of English provides a proseminar (English 179-80) intended to assist the student in preparing himself for the major examination. The major adviser will give to each student at registration a check list of avail-

\* On sabbatical leave spring term 1952-53  
 ‡ On leave of absence 1942-53

able courses grouped as prerequisite, necessary, or desirable for the completion of the major study program.

*Bachelor of Arts with a major in English Literature (Columbian College—Field-of-Study).*—Prerequisite: the Arts and Letters curriculum in the Junior College described on page 56. It is recommended that prospective majors elect English 91-92 from among the listed offerings.

Required: the general requirements stated on pages 71-76, and the passing of the English Literature major examination at the end of the senior year. The field of coordinated knowledge upon which the student will be examined at the end of his senior year is summarized under the following general headings: (1) the history of English literature from the Anglo-Saxon period; (2) the chief English writers (a certain familiarity with each man and his main works and a detailed knowledge of Shakespeare); (3) English social and political history as it bears upon or is reflected in the literature; (4) European intellectual backgrounds and movements which have affected English literature. The proportion of work taken in each of these areas should be worked out by the student in consultation with one of the English Literature advisers. The Department of English provides a proseminar (English 199-200) to assist the student in preparing himself for the major examination. A detailed description of the major is available in the office of the Dean of Columbian College.

*Master of Arts in the field of American Literary and Cultural History (Columbian College).*—Prerequisite: the equivalent of an undergraduate major in this University in (1) History (with American history as a major part), (2) American Thought and Civilization, or (3) English Literature (with introductory courses in American literature and American history). The student who has not taken any of the above majors at this University must take a candidacy examination.

Required: in addition to the general requirements stated on pages 78-80, the following specific requirements must be met: twelve of the required credit hours must be of seminar study, six in American history and six in American literature; twelve of the required credit hours must be of second and third group courses in the fields of American history, literature, philosophy, education, and art recommended by the adviser; a thesis (six credit hours) in any of the foregoing fields or in some combination of them. Because of the various undergraduate majors which will be accepted for admission to this program, a basic reading list is assigned to all students, to assist in preparing them for the final Master's examination.

*Master of Arts in the field of English and American Literature (Columbian College).*—Prerequisite: an undergraduate major in English Literature, or American Thought and Civilization at this University; or twenty-four credit hours in English and/or American literature above the sophomore level. The student who has not taken either of the above majors at this University must take a candidacy examination. The student offering split preparation (English and American literature) will be examined in English and American literature.

Required: in addition to the general requirements stated on pages 78-80, the following specific requirements must be met: (a) a schedule of courses amounting to twenty-four credit hours, planned in consultation with the adviser; on the basis of the student's undergraduate preparation, to include a comprehensive survey of American literature and of English literature from 1600; (b) a Master's thesis (six credit hours) written upon an approved topic under the direction of the instructor in whose field the major portion of the material has been taken; (c) a final written examination, on American literature and on English literature from 1600.

*Master of Arts in the field of English Literature (Columbian College).*—Prerequisite: an undergraduate major in English Literature at this University.



twenty-four credit hours in English literature above the sophomore level. The student who has not passed the major examination in English at this University must take a candidacy examination which, in its scope and difficulty, is comparable to the major English examination.

Required: in addition to the general requirements stated on pages 78-80, the following specific requirements must be met: (a) a schedule of courses amounting to 24 credit hours, planned in consultation with the adviser; (b) a Master's thesis (six credit hours) written upon an approved topic under the direction of the instructor in whose field the material falls; and (c) a final written examination.

*Bachelor of Arts in Education with a teaching field in English (School of Education).*—Prerequisite: the Education curriculum, page 58. Required: the English option, page 144, and the professional courses listed on page 147-48.

## ENGLISH COMPOSITION

### FIRST GROUP

#### A *English Practice* (3) The Staff

Instruction, drill, and exercises in grammar, vocabulary, spelling, and mechanics in general; instruction and exercises in composition and readings. This course is designed to prepare students for English 1. Morning and evening sections. (Also offered 1952 summer term.)

#### B *English for Foreign Students* (3) Allee

A course in reading and writing designed to prepare the student for English 1. Special attention is given to spelling, syntax, grammar, idiom, and vocabulary. Evening. (Also offered 1952 summer term.)

#### 1-2 *Freshman English\** (3-3) Moore and Staff

Review of grammar, exercises in composition, readings. Morning and evening sections. (Also offered 1952 summer term.)

English 1x, same as 1, offered spring term. Morning and evening sections.

English 2x, same as 2, offered fall term. Morning and evening sections.

#### 9 *Sophomore Composition* (3) Howard and Staff

A study of types of expository writing with weekly exercises. Prerequisite: English 1-2. Morning and evening sections.

#### 10 *The Short Story* (3) Howard and Staff

Some study of the technique of the short story and class criticism of student writing. Prerequisite: English 1-2. Morning and evening sections.

#### 11 *The Writing of Reports* (3) Turner and Staff

Theory and practice in the writing of technical reports. Evening.

English 11x, same as 11, offered spring term. Morning.

\* Before students are registered in English 1, they are tested in the minimum essentials of vocabulary, spelling, grammar, standard usage, and writing skill. Those students who show marked superiority may, upon passing further tests, be exempted from one or both terms of the Freshman English course; those who are inadequately prepared for English 1 will be assigned to English A.

English 1-2 is prerequisite to all other courses in English.

## SECOND GROUP

- 115 *The Writing of Fiction—the Short Story* (3) Howard  
Prerequisite: English 10; consent of instructor. Evening.
- 116 *Advanced Exposition* (3) Moore  
Theory and practice in the writing of expository articles and essays.  
Prerequisite: English 9; consent of instructor. Evening.
- 117-18 *The Writing of Fiction—the Novel* (3-3) Howard  
Writing a novel. Prerequisite: English 10; consent of instructor.  
Evening.

## ENGLISH LITERATURE

## FIRST GROUP

- 51-52 *Introduction to English Literature* (3-3) Stone and Staff  
A historical survey. Prerequisite: English 1-2. Morning, afternoon,  
and evening sections. (Also offered 1952 summer term.)  
English 51x, same as 51, offered spring term. Morning and evening  
sections.  
English 52x, same as 52, offered fall term. Morning and evening  
sections.
- 91-92 *Introduction to European Literature* Shepard and Staff  
(3-3)  
Consideration of various types. Prerequisite: English 1-2. Morning  
and evening sections.

## SECOND GROUP\*

- 121-22 *English Literature from the Beginnings to 1500* (3-3) Allen  
Fall term, English literature prior to Chaucer; spring term, Chaucer.  
Morning.
- 125 *The Evolution of Modern Speech* (3) Allen  
The development of the English language in a historical treatment;  
English grammar. Evening.
- 126 *The Appreciation of Literature* (3) Stone  
The study of the principles of criticism and their application to various  
literary types. (Not offered in 1952-53.)
- 129-30 *Elizabethan Nondramatic Literature* (3-3) Tuppe  
Nondramatic literature from 1485 to 1603. Evening.
- 135-36 *Shakespeare* (3-3) Tuppe  
Morning. (Also offered 1952 summer term—English 135 (3).)

\* English 51-52, 71-72, 91-92; or Classical Languages and Literatures 71-72 is prerequisite to all second group courses except English 125 and 126.

- 139-40 *The Seventeenth Century* (3-3) Linton  
First half, poetry and prose from 1603 to 1660; second half, Milton.  
(Not offered in 1952-53. See English 239-40.)
- 141-42 *The Neoclassical Movement* (3-3) Stone  
Poetry and prose from 1660 through the mid-eighteenth century.  
Morning.
- 151-52 *The Romantic Movement* (3-3) Day  
From the mid-eighteenth century through Shelley and Keats. Morn-  
ing. (Also offered 1952 summer term—English 152x (3).)
- 161-62 *Victorian Literature* (3-3) Shepard  
Poetry and prose from 1830 to 1900. English 161, evening. (English  
162 offered 1952 summer term but not during the academic year (3).)
- 165-66 *The Twentieth Century* (3-3) Linton  
British poetry, prose, and drama since 1900. Evening. (Also offered  
1952 summer term—English 166 (3).)
- 181-82 *The English Novel* (3-3) Day  
Major English novelists from Richardson to Woolf. Evening.
- 183-84 *The English Drama* (3-3) Tupper  
The first half is concerned principally with the drama of Shakespeare's  
contemporaries. The second half is a historical survey from 1660 to  
the present day. Evening. (Also offered 1952 summer term—Eng-  
lish 184 (3).)
- 199-200 *Proseminar: Readings for the English Literature Major* (3-3) Tupper, Stone  
Conferences and group discussions. Afternoon and evening sections.

## THIRD GROUP

- 222x *The Age of Chaucer* (3) Stone  
Summer term 1952.
- 223-24 *Old English* (3-3) Allee  
English language and literature before 1100. Fall term. Old English  
grammar and readings; spring term, Beowulf. (Not offered in 1952-  
53.)
- 235-36 *Studies in Shakespeare and His Contemporaries* (3-3) Tupper  
Prerequisite: English 135-36. (Not offered in 1952-53.)
- 239-40 *Studies in the Seventeenth Century* (3-3) Linton  
First half, chief figures exclusive of Milton; second half, Milton. Open  
to the undergraduate with the approval of the instructor. Evening.
- 241-42 *Studies in Neoclassical Literature* (3-3) Stone  
Prerequisite: English 141-42. Evening.



- 244x *Studies in Eighteenth Century Drama* (3) Stone  
(Not offered in 1952-53.)
- 251-52 *Studies in the Romantic Movement* (3-3) Day  
Prerequisite: English 151-52. Evening.
- 261-62 *Studies in Victorian Literature* (3-3) Shepard  
Prerequisite: English 161-62. (Not offered in 1952-53.)
- 295-96 *Studies in the History of English Literary Criticism* (3-3) Shepard  
Open to the undergraduate with the approval of the instructor. (Not offered in 1952-53.)
- 299-300 *Thesis* (3-3) The Staff

## AMERICAN LITERATURE

## FIRST GROUP

- 71-72 *Introduction to American Literature* Bolwell and Staff  
(3-3)  
A historical survey. First half: from the beginnings to the Civil War. Second half: from Civil War to the present day. Prerequisite: English 1-2. Morning and evening sections. (Also offered 1952 summer term.)

## SECOND GROUP

- 171-72 *Studies in American Literature* (3-3) Cole  
Major factors in the national cultural tradition as shown by outstanding writers. Prerequisite: English 51-52 or 71-72. Evening.
- 173-74 *Major American Poets* (3-3) Coberly  
Advanced critical study of significant writers and movements. First half: from beginnings through nineteenth century. Second half: the twentieth century. Prerequisite: English 51-52, 71-72, 91-92, or Classical Languages and Literatures 71-72. (Not offered in 1952-53.)
- 175-76 *American Drama* (3-3) Bolwell  
Historical and critical study of significant plays and forms. First half: from beginnings through nineteenth century. Second half: the twentieth century. Prerequisite: English 51-52, 71-72, 91-92, or Classical Languages and Literatures 71-72. Morning. (Also offered 1952 summer term.)
- 177-78 *American Fiction* (3-3) Coberly  
Historical and critical study of significant novels and short stories. First half: from beginnings through nineteenth century. Second half: the twentieth century. Prerequisite: English 51-52, 71-72, 91-92, or Classical Languages and Literatures 71-72. Evening.
- 179-80 *Proseminar: Readings for American Thought and Civilization Major* (3-3) The Staff  
Conferences and group discussions. Afternoon and evening sections.

## THIRD GROUP

- 271-72 *Seminar: American Literature (3-3)* Bolwell  
Prerequisite: English 171-72 or the equivalent. Evening.
- 277-78 *Studies in American Fiction (3-3)* Coberly  
Topic: Nineteenth Century Transcendentalism. Prerequisite: English 177-78 or the equivalent. Open to the undergraduate with the approval of the instructor. Evening.
- 279-80 *Thesis (3-3)* The Staff

## RELATED COURSES IN OTHER DEPARTMENTS

- Classical Languages and Literatures 71-72, *Greek and Roman Backgrounds in Literature*
- Classical Languages and Literatures 109, *Greek and Latin in Current English*
- Classical Languages and Literatures 110, *Greek and Roman Selected Plays*
- Education 136, *Teaching English*
- German 221, *Introduction to Linguistics*
- History 151-52, *English History*
- Philosophy 111-12, *History of Philosophy*

## GEOGRAPHY

Robert Dale Campbell, Ph.D., *Associate Professor of Geography, Executive Officer*

Walter Hall Bailey, A.M., *Assistant Professor of Geography*

William Adriance Withington, A.M., *Assistant Professor of Geography*

*Bachelor of Arts, with a major in Geography (Columbian College—Departmental).*—Prerequisite: the Arts and Letters curriculum in the Junior College; see page 56. Electives must include Geography 51 and 52.

Required: in addition to the general requirements as stated on pages 71–72, twenty-four credit hours of Geography (which must include Geography 103–4, 113, and 114) beyond first-group courses; fifteen credit hours in one or more of the following departments: Botany, Geology, Economics, History, or Political Science. Strongly recommended: Botany 1 and 2, Economics 1 and 2, and History 71–72.

*Master of Arts in the field of Geography (Columbian College).*—Prerequisite: a Bachelor of Arts degree with a major in Geography from this University or the equivalent. Required: the general requirements as stated on pages 71–72. The thirty hours of required work must include Geography 201–2, 299, and 300.

*Bachelor of Arts in Education with a teaching field in Geography (School of Education).*—Prerequisite: the Education curriculum, page 58. Required: Geography option, pages 144–45 and the professional courses listed on pages 147–48.

### FIRST GROUP

- 51 *Introduction to Geography* (3) Campbell  
A study of the attributes of place; patterns and associations of physical and cultural earth-features; the systematic appraisal of earth-man relationships. Evening. (Also offered 1952 summer term.)  
Geography 51x, same as 51, offered spring term. Morning.
- 52 *World Regions* (3) Campbell  
A study of the character of regions; description and interpretation of physical-cultural complexes; evaluation of regional differences as they affect the distribution and activities of man. Evening. (Also offered 1952 summer term.)  
Geography 52x, same as 52, offered fall term. Morning.
- 71 *Historical Geography of the United States* (3) Koenig  
A study of the sequence of settlement and regional development in the United States. Morning.
- 72 *Political Geography of the United States* (3) Koenig  
A consideration of the interplay between geographic and political factors and the extent to which they determine the administrative policies of governments. Morning. (Also offered 1952 summer term.)



## SECOND GROUP

- †103-4 *Cartography* (3-3) Bailey  
Principles of cartographic drafting; elementary map projections; map and graph planning, design, and construction; uses and interpretation of maps. Prerequisite: Geography 51 and 52. Laboratory fee, \$6 a term. Lecture (2 hours); laboratory (2 hours)—morning and evening sections.
- 113x *Geomorphology* (3) Bailey  
The nature and evolution of earth forms, with special emphasis upon relief features of North America. Prerequisite: Geography 51. Lecture (2 hours); laboratory or field (2 hours)—evening.
- 114x *Weather and Climate* (3) Bailey  
Rudimentary atmospheric physics, air mass and frontal weather analysis, regional climatology. Prerequisite: Geography 51. Lecture (2 hours); laboratory or field (2 hours)—evening.
- 125 *Trade and Transportation* (3)  
The influence of natural, economic, and political factors on the forms of transportation and upon trade routes. 1953-54 and alternate years.
- 126 *Strategic Materials* (3) Withington  
Location and utilization of raw materials essential to modern technology; position of the United States with regard to such materials. 1952-53 and alternate years, afternoon.
- 127 *Industrial Geography* (3)  
Location and distribution of significant industries, and analysis of the geographic factors determining both; internal structure and external relationships of specific industries.  
Summer term 1952.
- 128x *Agricultural Geography* (3) Withington  
Analysis of types and distribution of agricultural practices; crop ecology; character of predominantly agricultural economies. 1952-53 and alternate years, afternoon.
- 131 *Conservation of Natural Resources* (3)  
Principles and problems of conservation of vital natural resources: soils, water, forests, minerals, fuels, wildlife. Prerequisite: Geography 51. 1953-54 and alternate years.
- 132 *Land Use* (3) Withington  
Principles of geographic area analysis and land planning. Field trips and field problems. Prerequisite: Geography 51 and 52. 1952-53 and alternate years, evening.
- 141 *Geography of Settlement* (3) Withington  
The study of the nature and form of settlement, and of population trends and patterns. Prerequisite: Geography 51 and 52. 1952-53 and alternate years, evening.
- 142 *Urban Geography* (3) Withington  
The study of the location, form, and function of cities. Prerequisite: Geography 51 and 52. 1952-53 and alternate years, evening.

- 161 *Geography of Soils* (3) Withington  
The physical nature, development, and world distribution of soils, soils and land use, current and future soil problems. Prerequisite: Geography 51 and 52. 1952-53 and alternate years, evening.
- 162 *Geography of the Oceans* (3)  
Physical and cultural aspects of the oceans and their coasts. Rudimentary physical oceanography and marine ecology. Influence of the oceans on economic and political development of adjacent areas. (Not offered in 1952-53.)
- 171-72 *Field Geography* (3-3)  
Field study methods, training in mapping and analysis techniques for both rural and urban areas. Prerequisite: Geography 51 and 52. Material and transportation fee, \$15 a term. (Not offered in 1952-53.)
- 174 *Map Interpretation* (3)  
Map elements and map uses; map reading; interpretation and evaluation of maps. (Not offered in 1952-53.)
- 181 *Anglo-America\** (3) Withington  
1952-53 and alternate years, afternoon.
- 183 *Northwest Europe\** (3) Bailey  
1952-53 and alternate years, evening.
- 184 *Mediterranean Region\** (3) Bailey  
1952-53 and alternate years, evening.
- 185 *Africa\** (3)  
(Not offered in 1952-53.)
- 191 *Middle America\** (3)  
1953-54 and alternate years.
- 192 *South America\** (3)  
1953-54 and alternate years.
- 195 *Eastern and Southeastern Asia\** (3)  
1953-54 and alternate years.
- 196 *Southwestern Asia and Soviet Union\** (3)  
1953-54 and alternate years.
- 198 *Australia and the Pacific\** (3) Withington  
1952-53 and alternate years, afternoon.

## THIRD GROUP ‡

- 201-2 *Seminar: History and Philosophy of Geography* (3-3)  
Time to be arranged.

\* Regional survey. No prerequisite.

‡ Senior major or graduate status is required in any third-group course.

Campbell

- 231-32 *Seminar in Geography (3-3)* The Staff  
 Subjects of immediate interest for students of geography and professional geographers in the Washington area.  
 Summer term 1952—Geography 232, Economic Geography of the Soviet Realm (3).
- 251-52 *Seminar: Problem Areas of the World (3-3)* The Staff  
 Summer term 1952—Geography 251, Problems of World Food Supply (3); Geography 252, Settlement Problems in Underdeveloped Areas (3).
- 295-96 *Research (3-3)* The Staff  
 Special directed studies. Time to be arranged.
- 299-300 *Thesis (3-3)* The Staff  
 Time to be arranged.



## GEOLOGY

\_\_\_\_\_, *Associate Professor of Geology*

\_\_\_\_\_, *Instructor in Geology*

*Bachelor of Arts with a major in Geology (Columbian College—Departmental).*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Required: in addition to the general requirements as stated on pages 71-76, at least twenty-four of the required sixty credit hours must be in Geology beyond the first-group courses.

*Master of Arts in the field of Geology (Columbian College).*—Prerequisite: a Bachelor of Arts degree with a major in Geology at this University, or the equivalent. Required: the general requirements as stated on pages 78-80.

### FIRST GROUP

#### 5 *Field Geology* (6)

Field trips to neighboring localities of geological interest, with classroom study. (Not offered in 1952-53.)

#### 21-22 *Physical and Historical Geology* (3-3)

Survey course covering the principles of physiography, geology, and mineralogy. (Not offered in 1952-53.)

### SECOND GROUP

#### 121-22 *Paleontology* (3-3)

Lectures and laboratory work on classification and structure of fossil invertebrates, vertebrates, and plants, including their use as guide fossils in stratigraphic geology. (Not offered in 1952-53.)

#### 123-24 *Regional Geology of North and South America* (3-3)

Lectures and map work on the physiographic regions of the Western Hemisphere, stressing the relationship between geology and geography and culture. (Not offered in 1952-53.)

#### 125-26 *Regional Geology of the Eastern Hemisphere* (3-3)

Alternating with Geology 123-24 and with it completing a survey of the world. (Not offered in 1952-53.)

### THIRD GROUP

#### 215-16 *Seminar* (3-3)

Detailed study and presentation by the class and instructor of some phase of geology with review of current literature. (Not offered in 1952-53.)

#### 227-28 *Research* (arr.)

Original work on individual problems, including a digest of the published record. (Not offered in 1952-53.)

#### 299-300 *Thesis* (3-3)

(Not offered in 1952-53.)

## GERMANIC LANGUAGES AND LITERATURES

Edward Henry Sehrt, Ph.D., *Professor of German, Executive Officer*

Gretchen Louisa Rogers, Ph.D., *Associate Professor of German*

Wolfram Karl Legner, Ph.D., *Associate Professor of German*

*Bachelor of Arts with a major in Germanic Languages and Literatures (Columbian College—Departmental).*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Required: in addition to the general requirements as stated on pages 71-76, a minimum of twenty-four credit hours must be in German beyond first-group courses.

*Master of Arts in Germanic Languages and Literatures (Columbian College).*—Prerequisite: a Bachelor of Arts degree with a major in Germanic Languages and Literatures from this University, or the equivalent. Required: the general requirements as stated on pages 78-80. The thirty hours of required work must include a thesis in the field of German literature or linguistics.

*Bachelor of Arts in Education with a teaching field in German.*—Prerequisite: the Education curriculum, page 58. Required: the German option, page 145, and the professional courses listed on pages 147-48.

### FIRST GROUP

†1-2 *First-year German (3-3)* Rogers, Legner, and Staff  
The essentials of German grammar; translation of easy prose. Morning and evening sections. (Also offered 1952 summer term.)

†3-4 *Second-year German (3-3)* Rogers, Legner, and Staff  
Selections from modern German prose; review of grammar. Prerequisite: German 1-2 or two years of high school German. Morning and evening sections. (Also offered 1952 summer term.)

### SECOND GROUP

†101-2 *Rapid Readings in Modern German Prose (3-3)* Rogers, Legner  
Morning and evening sections.

†103-4 *Goethe's "Faust" (3-3)* Sehrt  
Time to be arranged.

†105-6 *German Classicism (3-3)* Sehrt  
Particularly the works of Goethe and Schiller. (Not offered in 1952-53.)

107 *German Readings for Non-major Students\** Legner  
Designed primarily for graduate students preparing for reading examinations. Undergraduates admitted with the permission of the instructor. No academic credit for graduate students. Three hours credit for undergraduates. Time to be arranged.  
German 107x, same as 107, offered spring term. Time to be arranged.

\* Tuition fee, \$19.

- 109-10 *German Drama since 1800* (3-3) Seht  
Dramas of Kleist, Grillparzer, Hebbel, and Hauptmann. Time to be arranged.
- †111-12 *The German Romantic Movement* (3-3) Seht  
(Not offered in 1952-53.)
- †115-16 *Survey of German Literature* (3-3) Rogers, Legner  
Time to be arranged.
- †121-22 *Conversation and Composition* (3-3) Rogers  
Prerequisite: German 3-4 or the equivalent. Morning and evening sections.
- †123-24 *The German "Novelle und Roman"* (3-3) Rogers  
Time to be arranged.

## THIRD GROUP

- †201-2 *Middle High German* (3-3) Seht  
Evening.
- †205-6 *Gothic* (3-3) Seht  
Introduction to the comparative study of the Germanic Languages.  
(Not offered in 1952-53.)
- †209-10 *Old High German* (3-3) Seht  
Evening.
- 213-14 *Old Norse* (3-3) Seht  
(Not offered in 1952-53.)
- †219-20 *Comparative Germanic Grammar* (3-3) Seht  
(Not offered in 1952-53.)

## LINGUISTICS AND COMPARATIVE PHILOLOGY

- 221 *Introduction to Linguistics* (3) Seht  
Linguistics and comparative philology. Admission by permission of the instructor. (Not offered in 1952-53.)
- 222 *Indo-European Languages* (3) Seht  
Application of the laws of sound change in language; origin and development of suffixes and inflections; syntax. (Not offered in 1952-53.)
- †223-24 *Sanskrit* (3-3) Seht  
Introduction to comparative Indo-European grammar. Evening.  
The Staff
- 200-300 *Thesis* (3-3)



## HISTORY

Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*  
 Wood Gray, Ph.D., *Professor of American History, Executive Officer*  
 Howard Maxwell Merriman, Ph.D., *Professor of American Diplomatic History*

Myron Law Koenig, Ph.D., *Professor of American History*  
 Roderic Hollett Davison, Ph.D., *Associate Professor of European History*

Ronald Bettes Thompson, A.B., *Assistant Professor of European History*  
 Richard Catlin Haskett, Ph.D., *Assistant Professor of American History*  
 Robert Osborn Mead, A.M., *Lecturer in History*  
 Richard Blain McCornack, Ph.D., *Lecturer on Latin American History*  
 William Columbus Davis, Ph.D., *Lecturer on Latin American History*

*Bachelor of Arts with a major in History (Columbian College—Field-of-Study).*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Electives must include History 39-40 and 71-72.

Required: the general requirements as stated on pages 71-76 and the grade of "pass" on the History major examination at the end of the senior year.

The major, centered on the study of the rise, development, and spread, and the continuing challenges of Western civilization, is attested by a major examination. Under the guidance of an adviser the student will arrange his program in History to attain a balanced coverage of (1) the rise of civilization in Europe to the eve of the French Revolution, (2) the spread of Western culture throughout the world since the close of the fifteenth century, (3) the historic problems of modern industrial civilization from the beginnings of the Industrial Revolution, and (4) the relations of the major nations of Europe and America in their world setting since the Napoleonic Wars. A six-hour research seminar to give training in fundamental techniques is a required part of each major's program, and a proseminar (History 199-200) is offered as a means of integrating the student's understanding of the continuity of Western civilization. For details relating to the administration and content of the major, see the pamphlet on this subject, which is available in the offices of the Dean of Columbian College and the Executive Officer of the History Department.

*Master of Arts in the field of History (Columbian College).*—Prerequisite: the degree of Bachelor of Arts with a major in History from this University, or the equivalent, and the approval of the Department.

Required: the general requirements for the degree, as stated on pages 78-80. Of the twenty-four credit hours of required second- and third-group courses (exclusive of the thesis), at least six must be in third-group history courses, a maximum of six may be in a closely related field outside the Department of History as approved by the Department. Master's candidates are responsible for arranging with instructors of second-group courses for extra work, in order to receive graduate credit for such courses.

*Bachelor of Arts in Education with a teaching field in History (School of Education).*—Prerequisite: the Education curriculum, page 58. Required: the History option, page 145, and the professional courses listed on pages 147-48.

## FIRST GROUP

- 39-40 *The Development of European Civilization* (3-3) Kayser, Davison

Primarily for freshmen. Fall term: the political, social, economic, and cultural history of the Old World from ancient times to 1648. Spring term: from 1648 to the present. Morning and evening sections. (Also offered 1952 summer term.)

- 71-72 *The Development of the Civilization of the United States* (3-3) Koenig, Haskett

Primarily for sophomores. Fall term: the political, social, economic, and cultural forces of the United States in their world setting from 1492 to 1865. Spring term: from 1865 to the present. Morning and evening sections. (Also offered 1952 summer term.)

## SECOND GROUP \*

- 109 *Thought and Culture of the Western World I: Ancient Civilization* (3) Kayser

Intellectual and social awakenings in the Near East, Greece, and Rome; classical art, letters, philosophy, and science. Morning.

- 110 *Thought and Culture of the Western World II: the Middle Ages and the Renaissance* (3) Kayser

Christian thought from Augustine to Thomas Aquinas; humanism and the classical revival, rise of vernacular literatures, the fine arts. Morning.

- 119 *Thought and Culture of the Western World III: from the Reformation through the Age of Reason* (3) Kayser

The growth of Protestant polity and doctrine; the Counter-Reformation; the scientific revival; rationalism and the Enlightenment; arts and letters. (Not offered in 1952-53.)

- 120 *Thought and Culture of the Western World IV: Intellectual Aspects of the Modern Age* (3) Kayser

The evolution of democratic and social concepts; liberalism and authoritarianism in religion and in politics; the impact of modern science and technology; romanticism and realism. (Not offered in 1952-53.)

- 130x *Nationalism* (3) Kayser

The historical evolution of modern nationalism. Summer term 1952.

- 145-46 *Russian History* (3-3) Thompson

Fall term: Russian civilization and its Eurasian expansion from Tsar to Soviets, 862-1917. Spring term: the Soviet Union from Lenin's revolution to Stalin's empire, since 1917. Morning and evening sections.

\* History 109-40 is prerequisite to courses 109 through 132 and 193 through 196; History 71-72, to courses 161 through 184.

- 147 *Economic History of Europe* (3) Gray  
A survey from ancient times to the present day. Morning.
- 148 *Oversea Expansion of Europe* (3) Merriman  
International rivalries and the impact of European civilization in Africa and the Pacific basin since 1500, with emphasis on the nineteenth and twentieth centuries. (Not offered in 1952-53.)
- 149-50 *European Diplomatic History* (3-3) Davison  
Background of the European state system and of diplomatic practices and relations since the Congress of Vienna, with emphasis on the policies and actions of the great powers and their statesmen. Fall term: to 1871; spring term: since 1871. Morning. (Also offered 1952 summer term.)
- 151-52 *English History* (3-3) Haskett  
A general survey of the development of political, social, and economic institutions of lasting significance in the English speaking world. Fall term: to 1689; spring term: since 1689. Morning. (Also offered 1952 summer term—History 152 (3).)
- 161-62 *Latin American History* (3-3) Davis  
Development of political, economic, social, and institutional affairs of the Ibero-American colonies (fall term) and the period since independence (spring term). Evening.
- 171-72 *Social History of the United States* (3-3) Gray  
Daily life, institutions, intellectual and artistic achievements of the Agrarian Era, 1607-1861; and the Urban-Industrial Era, 1861 to the present time. Evening. (Also offered 1952 summer term—History 172 (3).)
- 173 *Representative Americans* (3) Gray  
A biographical approach to national history. Some fifty significant and pivotal personalities in the development of the United States in government, business, science, religion, journalism, the arts, and social reform. Morning. (Also offered 1952 summer term.)  
History 173x, same as 173, offered spring term. Evening.
- 174 *Economic History of the United States* (3) Gray  
Main trends in the development of American agriculture, industry, and trade since 1607, with emphasis on tendencies and problems since the Civil War. Morning. (Also offered 1952 summer term.)
- 175-76 *Political and Constitutional History of the United States* (3-3) Haskett  
The programs and conflicts of group interests in America within the legal and political framework. Fall term: to the Civil War; spring term: since the Civil War. History 175, morning and evening sections; History 176, morning.
- 177x *The South* (3) Gray  
Rise of the plantation system and slavery; the intersectional conflict; and the problems and progress of the New South. Morning.



- 181-82 *Diplomatic History of the United States* (3-3) Merriman  
Tendencies toward isolation, expansion, and collectivism; disputes with foreign countries and their settlement; and the activities of the American secretaries of state and diplomatic agents. Fall term: to 1871; spring term: since 1871. Morning and evening sections. (Also offered 1952 summer term.)
- 183 *Oversea Expansion of the United States* (3) Merriman  
The political, economic, social, and cultural life of our outlying possessions. Morning. (Also offered 1952 summer term.)
- 184 *Canada and the United States* (3) Merriman  
The historical background and main trends in the relationship of the two English-speaking peoples of North America. Morning.
- 191-92 *Current History* (1-1) Kayser  
Contemporary events in their world setting. Afternoon.
- 193 *History of the Near East* (3) Davison  
The Ottoman Empire, its origin and its successors, from the fall of the Byzantine Empire to the breakup of the Ottoman Empire. With the diplomacy of the Eastern Question and the rise of the Turkish Republic. Morning.
- 195-96 *History of the Far East* (3-3) Thompson  
Fall term: the civilizations of China, India, and Japan from the beginnings to 1500 A.D. Spring term: the modern Orient under the impact of the West since 1500. Evening.
- 199-200 *Proseminar: Reading for the History* The Staff  
*Major* (3-3)  
Limited to majors in History. Readings and discussions on main trends in the history of Western civilization, including representative selections from the classics of historical literature. Evening. (Also offered 1952 summer term.)

## THIRD GROUP\*

- 241-42 *Conference Seminar in Recent European Diplomatic History*† (3-3) Davison  
(Not offered in 1952-53.)
- 244 *Reading Course in Modern European History* (3) Thompson  
Primarily for graduate students. Time to be arranged.
- 246 *Seminar in Russian History* (3) Thompson  
Evening.
- 247 *Reading Course in Russian History* (3) Thompson  
Primarily for graduate students. Time to be arranged.

\* Approval of the instructor is required for registration in each third-group course.  
† Primarily for Master's candidates in the School of Government.

- 249 *Seminar in European Diplomatic History* (3) Davison  
Evening.
- 261-62 *Seminar in Latin American History* (3-3) McCornack  
Evening.
- 271 *Seminar in the Social History of the United States* (3) Gray  
Evening.
- 276 *Seminar in American Political and Constitutional History* (3) Haskett  
Evening.
- 281-82 *Seminar in the Diplomatic History of the United States* (3-3) Merriman  
Evening.
- 287 *Conference Seminar on the Development of the Foreign Policy of the United States\** (3) \_\_\_\_\_  
Evening.
- 291-92 *Seminar* (3-3) The Staff  
Prerequisite: approval of the Department. Time to be arranged.  
(Also offered 1952 summer term.)
- 294 *Seminar in the History of the Modern Near East* (3) Davison  
Evening.
- 299-300 *Thesis* (3-3) The Staff  
Required of all candidates for the Master's degree specializing in history. Time to be arranged. (Also offered 1952 summer term.)

\* Designed primarily for Master's candidates in the School of Government.

## HOME ECONOMICS

**Frances Kirkpatrick, A.M., Professor of Home Economics, Executive Officer**

**Kathryn Mildred Towne, A.M., Associate Professor of Home Economics**

*Bachelor of Science with a major in Home Economics (School of Education).—Prerequisite: Home Economics curriculum in the Junior College, see pages 58-59. The requirements for the degree are stated on pages 137-38 and 139.*

*Bachelor of Arts in Education with a teaching field in Home Economics (School of Education).—Prerequisite: the Education curriculum on page 58. For requirements, see special bulletin.*

### FIRST GROUP

- 1 *Food Selection and Preparation* (3) Kirkpatrick  
Composition, selection, and preparation of food; analysis of recipes, standard products; planning, preparing, serving, and estimating the cost of meals. Material fee, \$15. Morning.  
Home Economics 1x, same as 1, offered spring term. Evening.
- 22 *Clothing: Its Selection, Cost, and Care* (3) Towne  
Clothing selection—the economic, aesthetic, and hygienic aspects; the application of the principles of color and design to individual selection; the care of clothing. Morning.
- 51 *Family Meals* (3) Kirkpatrick  
The choice, purchase, preparation, and service of foods; dietary standards, food habits, and the nutritional needs of the family; problems of purchasing, care, and use of food by the consumer. Material fee, \$9. Lecture (2 hours), laboratory (2 hours)—morning.
- 53x *Family Health and Household Sanitation* (3) Kirkpatrick  
Home hygiene and home care of the sick; the principles of household sanitation in relation to health and diseases. Material fee, \$6. Morning.
- 62 *Clothing Construction* (3) Towne  
Techniques of construction suitable for cotton, wool, and rayon fabrics; the use of commercial patterns and their alteration; the proper selection of color, design, and fabric. Material fee, \$6. Afternoon.  
Home Economics 62x, same as 62, offered fall term. Evening.
- 71 *Costume Design and Fashion Economics* (3) Towne  
Factors determining fashions and effect on cost of clothing; problems of the consumer of textiles and clothing; historic costume and its relation to modern dress. Material fee, \$6. Afternoon.
- 72 *Household Textiles* (3) Towne  
Properties, uses, and tests of the different textile fibres and fabrics; and development of judgment and knowledge of standard for the



consumer of clothing and house-furnishing material. Material fee, \$6. Afternoon.

77 *Marketing* (3)

Purchasing of foods as it relates to the home and to the institution. (Not offered in 1952-53.)

SECOND GROUP

102 *Advanced Food Preparation* (3)

Kirkpatrick

The application of the fundamental processes of food preparation to a wider range of food materials and various services for different occasions. Material fee, \$15. Morning.

106 *Quantity Cookery* (3)

The Staff

(Not offered in 1952-53.)

123 *Household Finance and Problems of the Consumer* (3)

Towne

Economic problems of the family in modern industrial society; family income; income apportionment and household expenditures; laws affecting the home; investments; consumer buying. Morning.

143x *Advanced Clothing Construction* (3)

Towne

Problems of clothing construction, including renovation, flat pattern designing. Material fee, \$6. Evening.

148 *Food Problems* (3)

Kirkpatrick

Factors affecting the preparation of standard products from the experimental viewpoint; principles of food demonstrations. Material fee, \$15. (Not offered in 1952-53.)

152x *Nutrition* (3)

Kirkpatrick

Lecture course on the principles of normal and abnormal human nutrition. Laboratory work on the calculation and preparation of dietaries. Laboratory fee, \$6. Evening.

154 *Diet Therapy* (3)

Study of nutrition as applied to diet and disease. Material fee, \$6. (Not offered in 1952-53.)

164 *Child Nutrition* (3)

Kirkpatrick

Basic principles in nutrition and growth of the infant, pre-school, and adolescent child in health and disease. (Not offered in 1952-53.)

168 *Institutional Management* (3)

Study of the organization, equipment, and marketing problems of institutions. (Not offered in 1952-53.)

171 *House Furnishing* (3)

Towne

Home planning from the historic, artistic, economic, and sanitary viewpoints; home furnishings such as linens, dishes, floor covering, mattresses, etc. Material fee, \$3. Afternoon.

- 181X *The Child in the Home* (3) Kirkpatrick  
Care and development of children; parent-child relationships. (Not offered in 1952-53.)
- 192 *The Home, Its Management and Equipment* (3) Kirkpatrick  
Economical management of the home; distribution of time and energy; problems in the selection, arrangement, and care of equipment. Afternoon.
- 193 *Supervision of Home Management* (3) The Staff  
Field work under supervision. Designed to meet requirements of those preparing to teach in federally-aided schools. Time to be arranged.
- 195-96 *Special Problems* (3-3) The Staff  
Individual investigation or study under the guidance of a member of the staff. Suggested problems are: home economics education, marketing, tailoring, and draping. Program and conferences arranged with an instructor. Afternoon.
- 197-98 *Proseminar* (3-3) The Staff  
The study of the most recent materials and problems in the various phases of home economics. Evening.

## JOURNALISM

Elbridge Colby, Ph.D., *Professor of Journalism, Executive Officer*  
 Edwin DeFrees Neff, M.S., *Lecturer in Journalism*  
 Frank Landt Dennis, A.B., LL.B., *Lecturer in Journalism*  
 William Vance Nessly, *Lecturer in Journalism*  
 Robert Earl Harper, A.B., *Lecturer in Journalism (Public Relations)*  
 Franklin John Ehler, *Lecturer in Journalism*  
 Philip Hampton Love, *Lecturer in Journalism*  
 James Edward Hague, *Lecturer in Journalism*  
 Russell Fessenden, Ph.D., *Lecturer in Journalism (Public Relations)*  
 William Cornelius Strand, *Lecturer in Journalism*

### SEMINAR LECTURERS

Richard Hollander, Managing Editor, *The Washington Daily News*,  
*Professorial Lecturer in Journalism*  
 James Russell Wiggins, Managing Editor, *The Washington Post*, Pro-  
*fessorial Lecturer in Journalism*  
 Paul Wooton, Correspondent, *The New Orleans Times-Picayune*, Pro-  
*fessorial Lecturer in Journalism*

*Bachelor of Arts with a major in Journalism (Columbia College—Depart-  
 mental):*

*In the field of News-Editorial.—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Electives must include Journalism 71-72. Required: the general requirements as stated on pages 71-76. Of the sixty hours of required courses a minimum of twenty-four must be in second-group Journalism courses including 111-12, 115, 151-52, and 199. It is recommended that electives in the Junior College be selected from the following: Economics 1-2, English 71-72, History 71-72, Political Science 9-10, Psychology 1, Sociology 1-2, 71-72; and in Columbia College from the following: Business Administration 141, 147; English 171-72, 177-78; Geography 51, 182; History 171-72, 174, 181-82, 191-92; Philosophy 172; Psychology 156.*

*In the field of Public Relations.—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Electives must include Economics 1-2; History 71-72; Journalism 71-72; Psychology 1, 2; and Speech 1, 2. Required: the general requirements as stated on pages 71-76. The sixty hours of required courses must include the following: Business Administration 101, 141, 147; Journalism 111-12, 116, 117; Psychology 151, 156; and Speech 131, 148. It is recommended that Columbia College electives be selected from the following: Business Administration, 102, 105, 106, 131; English 11; History 174; Journalism 121, 141, 142, 151-52; Psychology 144; Speech 41, 109, 143. In exceptional cases changes from the required and recommended courses may be permitted with the approval of the Journalism Department.*

### FIRST GROUP

71-72 *Journalism Survey (3-3)* Colby  
 The newspaper and society; survey of character, techniques, and content of leading newspapers; history of American journalism. It is



recommended that English 71-72 or History 71-72 be taken in conjunction with this course. Morning and evening sections.

### SECOND GROUP

- 111-12 Reporting (3-3)** Hague, Love  
Techniques of newspaper reporting, instruction and practice in modern methods of gathering and presenting news. Some knowledge of typing is desirable. Prerequisite: English 1-2 or the equivalent. Laboratory fee, \$6 a term. Morning and evening sections.
- 115 Newspaper Copy Editing and Make-up (3)** Nessly  
Editing of news prior to publication, the copy desk, head lines, make-up, the city editor and his functions. Prerequisite: Journalism 111-12 or the equivalent, unless taken concurrently. Saturday morning.
- 116 Principles of Public Relations (3)** Harper  
The press and information office, technique of news releases, public addresses as news, promotion of feature material, the problem of public relations in government agencies and commercial establishments. Saturday morning.
- 117 Problems in Public Relations (3)** Harper  
Case histories of successful public relations programs, discussion of public relations procedures and ethics, preparation of specific public relations projects. Prerequisite: Journalism 116. Saturday morning.
- 121-22 Feature Writing (3-3)** Neff, Strand  
Instruction and practice in writing of special newspaper and magazine articles for sale, material for which is obtained through interviews and independent investigation. Prerequisite: English 1-2 or the equivalent. Morning.  
Journalism 121x, same as 121, offered spring term. Evening.
- 141 General Editing for Publication (3)** Fessenden  
Editing procedures and techniques, proof reading, titles, arrangement, layout, type uses. Intended for students preparing for trade publications and public relations work rather than newspaper work. Prerequisite or concurrent registration: Journalism 111-12. Saturday morning.
- 142 Retail Newspaper Advertising (3)** Ehlert  
Retail newspaper advertising management, coordination of newspaper advertising with retail sales patterns, advertising readership, copy preparation, production methods. Prerequisite: Business Administration 147 or permission of the instructor. Evening.
- 151-52 Editorial Writing (3-3)** Colby  
Current events from the standpoint of editorial interpretation, instruction and practice in the writing of editorials and columns on public affairs. Admission by permission of the instructor. Morning and evening sections.
- 199x Law of the Press (3)** Dennis  
Freedom of the press, censorship, legislative controls, publication as contempt of court, copyright, news gathering agencies, labor law and the newspaper business, law of libel, privileged matter, fair comment on public characters, right of privacy. Saturday morning.

## LAW

- William Cabell Van Vleck, A.B., LL.B., S.J.D., LL.D., *Professor Emeritus of Law in Residence*
- Charles Sager Collier, A.B., LL.B., S.J.D., *Professor of Law*
- William Thomas Fryer, A.B., LL.B., J.D., *Professor of Law*
- Saul Chesterfield Oppenheim, A.M., J.D., S.J.D., *Professor of Law*
- Carville Dickinson Benson, A.B., LL.B., S.J.D., *Professor of Law*
- James Forrester Davison, A.B., LL.B., LL.M., S.J.D., *Professor of Law*
- James Oliver Murdock, Ph.B., LL.B., *Professor of Law*
- Oswald Symister Colclough, B.S., LL.B., LL.D., *Professor of Law*
- George Bowdoin Craighill, A.B., LL.B., *Adjunct Professor of Law*
- James Ward Morris, A.B., *Adjunct Professor of Law*
- James Robert Kirkland, A.B., LL.B., LL.M., *Adjunct Professor of Law*
- Bolitha James Laws, LL.B., LL.M., LL.D., *Adjunct Professor of Law*
- Conder Caywood Henry, A.B., LL.B., *Adjunct Professor of Law*
- John Wingfield Jackson, B.S., LL.B., *Adjunct Professor of Law*
- Elliott DeJarnette Marshall, LL.B., *Adjunct Professor of Law*
- Frank Hammett Myers, LL.B., LL.M., *Adjunct Professor of Law*
- Alvin Leroy Newmyer, LL.B., *Adjunct Professor of Law*
- John Albert McIntire, A.B., LL.B., *Professorial Lecturer in Law*
- Justin Lincoln Edgerton, A.B., LL.B., *Professorial Lecturer in Law*
- Philip Field Herrick, A.B., LL.B., LL.M., *Professorial Lecturer in Law*
- Raymond Stevens Smethurst, B.S., LL.B., *Professorial Lecturer in Law*
- George Edward Monk, A.B., LL.B., LL.M., *Professorial Lecturer in Law*
- Charles Sylvanus Rhyne, LL.B., *Professorial Lecturer in Law*
- Jennings Bailey, Jr., A.B., LL.B., *Professorial Lecturer in Law*
- William Leigh Ellis, A.B., LL.B., LL.M., *Professorial Lecturer in Law*
- Norman Alfred Sugarman, A.B., LL.B., *Professorial Lecturer in Law*
- Frederick Bernays Wiener, Ph.B., LL.B., *Professorial Lecturer in Law*
- Robert McKinney Cooper, Ph.M., J.D., *Associate Professor of Law*
- Leroy Sorenson Merrifield, A.B., LL.B., M.P.A., *Associate Professor of Law*
- John Patrick Burke, A.B., LL.B., *Associate Professor of Law*
- Herman Israel Orentlicher, A.B., LL.B., *Associate Professor of Law*
- John Theodore Fey, LL.B., M.B.A., *Associate Professor of Law*
- David Benson Weaver, A.B., LL.B., *Assistant Professor of Law*
- Glen Earl Weston, B.S., LL.B., *Assistant Professor of Law*
- Louis Harkey Mayo, B.S., LL.B., *Assistant Professor of Law*
- Roger Allen Cunningham, B.S., LL.B., *Assistant Professor of Law*
- \*Arthur Selwyn Miller, A.B., LL.B., *Assistant Professor of Law*

\* On national service leave.

Ernest McClain Jones, B.B.A., LL.B., *Assistant Professor of Law*  
 William Thomas Mallison, Jr., A.B., LL.B., *Assistant Professor of Law*  
 William Lester Griffin, A.B., LL.B., LL.M., *Lecturer in Law*  
 Joseph Dach, LL.D., LL.B., *Lecturer in Law*  
 John Joseph Czyzak, A.M., LL.B., *Lecturer in Law*  
 George Nelson Robillard, B.S., LL.B., *Lecturer in Law*  
 Milton Paul Kroll, A.B., LL.B., *Lecturer in Law*  
 John Alexander Kendrick, A.B., LL.B., *Clerk of the Trial Practice Court*  
 Dudley Graham Skinker, LL.B., *Associate Clerk of the Trial Practice Court*

For the requirements for the degrees of *Bachelor of Laws*, *Juris Doctor*, *Master of Laws*, *Master of Comparative Law*, *Master of Comparative Law (American Practice)*, and *Doctor of Juridical Science*, see pages 109-14.

## FIRST YEAR

101 *Legal Method and Legal System* (4)

Fryer, Benson, Burke, Orentlicher, Cunningham

Introduction to study of substantive and procedural law dealing with basic concepts. Training in method and technique of case law, based upon modern records in state and federal cases, followed by practice in the use of law books and legal writing. Importance of language in law, legal reasoning, statutory interpretation, and use of precedents. Background development of Anglo-American legal system; organization of the judiciary and the bar, stressing enforcement of ethical standards. Fryer and Benson, *Cases on Legal Method and Legal System*, 2 vol. ed. 1949. Morning and evening sections. (Also offered 1952 summer term.)

Law 101x, same as 101, offered spring term. Morning and evening sections.

111-12 *Contracts* (4-2)

Mayo, Jones

Scope of protection accorded contracts; specific performance of contracts other than land transactions; damages, restitution. Mutual assent: offer and acceptance, misunderstanding, mistake, reformation, parol evidence rule. Consideration, third party beneficiaries, assignments, conditions, Statute of Frauds. Morning and evening sections. (Also offered 1952 summer term.)

123 *Criminal Law and Procedure* (4)

Cooper

Origin and purposes of criminal law; elements of criminal liability; mental disorders; solicitation, attempt, and conspiracy; crimes against the person, against property, and against both; statutory offenses; criminal procedure, with consideration of Federal Rules of Criminal Procedure. Morning. (Also offered 1952 summer term.)

Law 123x, same as 123, offered spring term. Evening.

133 *Personal Property* (2)

Fryer, Cunningham

Concepts of property and ownership; possession; findings; bailment; liens and pledges; acquisition of title by bona fide purchase, adverse



possession, accession, confusion, judgment, satisfaction of a judgment, and gift. Morning and evening sections. (Also offered 1952 summer term.)

Law 133x, same as 133, offered spring term. Morning and evening sections.

**138 Real Property (4) Benson, Cunningham**

Historical background of estates and conveyances; possessory estates; concurrent estates; natural rights; easements, profits, and licenses; adverse possession and adverse user. Morning. (Also offered 1952 summer term.)

Law 138x, same as 138, offered fall term. Evening.

**142 Torts I (4) Merrifield, Weston**

Intended and unintended interference with the person or tangible things, defamation of the person, malicious prosecution. Morning and evening sections.

**150 Constitutional Law (4) Collier, Mallison**

Historical introduction, judicial approach and methods, doctrine of the separation of powers, powers of the National Government; the federal system and relation of federal and state courts. Morning and evening sections. (Also offered 1952 summer term.)

**SECOND YEAR**

**205 Civil Procedure (4) Burke, Weston**

Function and composition of pleadings, including their relation to proof. Emphasis is upon reforms, as exemplified by modern code provisions and the Federal Rules of Civil Procedure. Clark, Cases on Pleading and Procedure, 2d ed. Morning and evening sections. (Also offered 1952 summer term.)

**223x Domestic Relations (2) Mallison**

Marriage, annulment, and divorce; rights of husband and wife; rights of parent and child; infants. Morning and evening sections. (Also offered 1952 summer term.)

**234 Evidence (4) Fryer, Weston**

Functions of court and jury; witnesses; hearsay, opinion, and circumstantial evidence; proof of authenticity and contents of writings. Morning and evening sections. (Also offered 1952 summer term.)

Law 234x, same as 234, offered fall term. Evening.

**247 Commercial Paper (4) Orentlicher**

Bills of exchange, promissory notes and checks, especially under the Negotiable Instruments Law. Morning and evening sections. (Also offered 1952 summer term.)

**250 Conveyances and Wills (4) Cunningham**

Land contracts, conveyances, mortgages, recording; formation and revocation of wills, testate and intestate succession. Morning and evening sections.

- 251 *Restitution* (2) Burke, Orentlicher  
 Legal remedies for restitution of benefits obtained or conferred by performance of contract, misrepresentation, mistake, and coercion. Morning and evening sections.
- 253 *Torts II—Unfair Trade Practices* (4) Oppenheim  
 Unfair trade practices at common law and under state and federal statutes. Trade-marks and trade names, including Trade-Mark Act of 1946. Misappropriation. False advertising at common law. Federal Trade Commission jurisdiction over misrepresentation practices. Lotteries and premiums. Disparagement of competitor's goods and business methods. State Fair Trade Acts (resale price maintenance). Price discrimination (State and Federal Robinson-Patman Act). State statutes prohibiting sales below cost. Inducing breach of contract. Commercial bribery. Miscellaneous business torts constituting unprivileged interferences with advantageous business relations. Oppenheim, *Unfair Trade Practices, Cases, Comments and Materials* (1952). Morning and evening sections.
- 258 *Commercial Transactions* (4) Orentlicher, Weston  
 The law relating to the sale and distribution of goods, and to the security financing devices utilized in this connection, with particular attention to the effect of uniform laws. Morning and evening sections.
- 261 *Agency-Partnership* (4) Cooper, Murdock  
 Master and servant (status of agent), respondeat superior, nature of agency relation; actual authority, parties (disclosed and undisclosed principal), unauthorized transactions, notice, notification. Formation of partnerships, partnership property, rights and duties of partners inter se, nature and enforcement of the partnership obligation, dissolution of the partnership, actions by and against partners. Morning and evening sections. (Also offered 1952 summer term.)
- 270 *Corporations* (4) Cooper, Weaver  
 Legal requirements as to contributions of capital; powers and rights of corporations, corporate officials, and shareholders. Morning and evening sections. (Also offered 1952 summer term.)

### THIRD YEAR

- 303 *Administrative Law* (4) Davison  
 Legislative setting for administrative bodies; judicial control of administrative action, public utilities, taxation, alien laws. Federal Trade Commission, workmen's compensation, etc. Davison and Grandstein, *Cases on Administrative Law*. Morning. (Also offered 1952 summer term.)  
 Law 303x, same as 303, offered spring term. Evening.
- 305 *Municipal Corporations* (2) McIntire  
 Organization, powers, functions and legal relations of local governmental units. Evening. (Also offered 1952 summer term.)
- 306 *Government Corporations* (2)  
 Organization, powers, functions, and legal relations of functional governmental units separately incorporated. Prerequisite: Law 305. (Not offered in 1952-53.)

- 308 **Government Contracts (2)** McIntire  
Normal and war powers aspects of government procurement, including administrative and legislative policy and procedures, and legal problems involved in contracts, contract claims, policy price determination, contractual cost or profit control devices, renegotiation, termination settlement. Evening.
- 315 **Conflict of Laws (4)** Van Vleck  
Study of cases involving foreign elements; principles of jurisdiction and limitations upon its exercise; procedure, torts, workmen's compensation, contracts, property, family law, administration of estates, business associations. Cheatham, Goodrich, Griswold, and Reese, *Cases on Conflict of Laws*, 3d ed. Evening. (Also offered 1952 summer term.)  
Law 315x, same as 315, offered spring term. Morning
- 317x **Creditors' Rights (4)** Cunningham  
Remedies of unsecured creditors: judgments, fraudulent conveyances, creditors' agreements, equity and statutory receiverships, and bankruptcy. The general approach is that of law administration. Morning. (Also offered 1952 summer term.)
- 321-22 **Current Decisions (2-2)** Davison, Weaver  
Required of, and limited to, members of the student staff of the *Law Review*. Time to be arranged.
- 324 **Federal Jurisdiction (2)** Burke  
Constitutional and statutory origins of federal courts, cases arising under the laws and the Constitution, diversity of citizenship, jurisdictional amount, removal procedure and jurisdiction, limitations on federal jurisdiction, state and federal conflicts, substantive law applied by federal courts. McCormick and Chadbourn, *Cases on Federal Courts*. Morning and evening sections.
- 326 **Insurance (2)** Mayo  
The insurance device in life, property, and other risks. Morning and evening sections.
- 327x **International Law (4)** Murdock  
Origin, nature, sources and authority; the international community, recognition, organization (the United Nations); nationality, territory, jurisdiction; treaties; diplomatic and consular agents; state responsibility and international claims; pacific settlement; war; neutrality. Morning and evening sections.
- 329 **Labor Law (4)** Merrifield  
Laws applicable to strikes, picketing, boycotts, etc.; organization and representation of employees; negotiation of collective bargaining contracts; inter-union and intra-union relations; settlement of wage disputes (arbitration, mediation, conciliation). Cases, legislative and administrative materials, readings. Morning and evening sections.
- 332x **Legal Accounting (2)** Fey  
A study of elementary accounting principles and techniques; application of accounting principles to legal problems. Morning and evening sections. (Also offered 1952 summer term.)



- 333 **Legislation (4)** Mallison  
Justiciable aspects of the legislative process; forms and types of statutes; principles of statutory interpretation, structure and drafting. Evening. (Also offered 1952 summer term.)
- 335-36 **Trial Practice Court (2-2)** Laws, Morris, Craighill,  
Kirkland, Edgerton, Myers, Marshall, Jackson,  
Herrick, Monk, Newmyer, Kendrick, Skinker  
To be taken in the senior year. Prerequisite: Law 205 and 234. Morning and evening sections.
- 337 **Future Interests (2)** Reno  
Future interests at common law and under modern statutes, construction of limitations, powers of appointment, rule against perpetuities. Summer term 1952.
- 340 **Constitutional Interpretations (4)** Collier  
Advanced course in constitutional law. The Constitution and constitutional tradition; doctrines of limited government, separation of powers, implied limitations on legislative power, and significance of "due process" in current constitutional developments. Introduction to comparative constitutional law, with studies in the constitutional law of selected states of the Union. Evening.
- 345 **Substantive Patent Law\* (2)** Robillard  
Substantive patent law; patentability; revision, use, and enforcement of patents. Evening.
- 346 **Patent Office Practice\* (2)** Henry  
Rules of practice; appeal and interference procedure. Evening.
- 349-50 **Patent Trial Practice Court\* (2-2)** Henry, Bailey  
This course may be elected instead of Law 335-36 to satisfy the Trial Practice Court requirement. Both courses may not be counted toward a degree. Evening.
- 351 **Public Utilities (2)** Mallison  
Limits of regulation of business affected with public interest; ascertainment of value of property used for the public service and the fixing of adequate rates of return. Evening.
- 362x **Security Transactions (4)** Jones  
Security interests in real and personal property, their creation, transfer, enforcement, and extinguishment, together with security problems in the fields of suretyship and bankruptcy. Summer term 1952.
- 373 **Taxation (2)** Collier  
Introductory course on basic concepts of federal tax system. Attention given to state inheritance and income taxes. Problems of jurisdiction.

\* Patent law students should take Law 345 and Law 349 concurrently in the fall term and Law 346 and Law 350 concurrently in the spring term. Law 349-50 may be taken only by students who are taking or have taken Law 345.

tion to tax, construction of tax statutes, methods of judicial review of administrative actions in the tax field, modern excise taxes on business concerns. Magill and Maguire, *Cases on Taxation*, 4th ed. Morning and evening sections.

374 *Taxation—Federal Estate and Gift* (2) Fey

Specific problems in federal estate and gift taxation, with consideration of relevant state inheritance tax problems. Evening.

Law 374x, same as 374, offered fall term. Morning.

375-76 *Taxation—Federal Income* (2-2) Fey, Sugarman

Federal income taxation, including excess profits; imposition and computation problems. Evening.

Law 375x (4), same as 375-76 (2-2), offered spring term. Morning.

378 *Federal Anti-Trust Laws* (4) Oppenheim

Restraints of trade at common law. Public policy under Sherman Anti-Trust Act of 1890 and Federal Trade Commission and Clayton Acts, including mergers, consolidations and monopoly. Loose association activities (price-fixing agreements, trade associations, international cartels). Specific practices such as resale price maintenance, delivered price systems, exclusive arrangements and tying devices, trade boycotts. Patents and copyrights under anti-trust laws. Remedies. Oppenheim, *Cases on Federal Anti-Trust Laws*. Evening.

381 *Trusts* (4) Weaver

Creation, elements, administration, enforcement, termination. Liabilities to and of third persons. Resulting and constructive trusts. Bogert, *Cases on Trusts*, 2d ed. Morning and evening sections.

383 *Military Law and Jurisdiction* Wiener

Sources of military jurisdiction; military law proper, including court-martial jurisdiction and procedures before, during, and after trial; military government; martial law; laws of war and treatment of offenders. Evening.

386 *Aviation Law* (2) Rhyne

Procedure before Civil Aeronautics Board; legal problems arising in connection with air transportation and airports, international conventions and organizations. Evening.

388 *Admiralty* (2) Colclough

Federal and state jurisdiction; jurisdiction over waters, craft, contracts, torts, crimes, in equitable matters, etc.; laws applicable to maritime workers and maritime liens. Sprague and Healy, *Cases on Admiralty*. Evening.

391 *Government Regulation of Communication Media* (2) Mayo

Examination of the legal doctrine relating to free speech in the channels of mass communication (newspapers, motion pictures, radio, and television); analysis of the control exercised over the content of these media by government, private owners, and other interests; appraisal of the comparative utility of various regulatory techniques for implementing government policies affecting these media. Evening.

## GRADUATE COURSES

- 403 *Administrative Law Seminar* (2) Davison  
Group study of specific problems in administrative law. Time to be arranged.  
Law 403x, same as 403, offered spring term. Time to be arranged.
- 408 *S.E.C. Aspects of Corporate Finance* (2) Kroll  
Federal and state regulation of the distribution of securities, the securities markets, and the corporate structure; and management of public utility and investment companies. Primarily the aspects of corporate finance dealt with by the Securities and Exchange Commission. Evening.
- 410 *Legal Operation of Modern Social Legislation* (2)  
Philosophy, constitutional theory, and legal principles in the operation of the developing socio-economic programs for security of the individual, including Workmen's and Unemployment Compensation, Public Assistance, and related programs. Public.  
Summer term 1952.
- 413 *Labor Law Practice* (2) Merrifield  
Practices and procedures in voluntary arbitration cases and before federal agencies, such as National Labor Relations Board, Wage and Hour Division, Federal Mediation and Conciliation Service, and Wage Stabilization Board.  
Summer term 1952.
- 415 *Comparative Law* (4) Murdock  
Historical and comparative study of the fundamental principles of the Roman and modern Civil Law (law of South and Central America and most of continental Europe); comparative study of selected legal institutions to exemplify significant differences between the civil and common law systems in source materials and in methods and approaches to the solution of legal problems. Evening.
- 421 *Constitutional Law Seminar* (2) Collier  
Group study of contemporary problems in constitutional law. Time to be arranged.
- 427 *World Law* (2) Czyz  
The United Nations as a basis of reference for a study of international law. Evening. (Also offered 1952 summer term.)
- 430 *International Law Seminar* (2) Murdock  
Group study of contemporary problems in international law. Time to be arranged.
- 435 *Jurisprudence* (4) Collier  
History of jurisprudence; schools of jurists, particularly the nineteenth century schools; sociological jurisprudence; theories of justice; the nature of law; law and morals; law and the state; the scope and subject matter of law, sources and forms of law; the traditional comment; analysis of general legal concepts. Hall, Readings in Jurisprudence. Evening.



437x *Monetary Law (2)*

Dach

Introductory survey of the provisions of public law by which money is administered, relating particularly to the Federal Reserve System; the legal character of money and of monetary obligations; legal tender; the "dollar-for-dollar" rule and its limitations; protective clauses (gold, commodity, index clauses); foreign exchange (money of contract, money of payment, conversion, rate of exchange, conflict of laws problems). Evening.

451x *Trade Regulation Seminar (2)*

Oppenheim

Group study of current problems relating to unfair trade practices and federal anti-trust laws. Time to be arranged.

461 *Corporate Taxation Seminar (2)*

Fey

Group study of special problems in corporate taxation. Time to be arranged.

462 *Federal Taxation Seminar (2)*

Fey

Group study of special problems in federal taxation. Time to be arranged.

466 *Estate Planning Seminar (2)*

Weaver

Consideration of the problems involved in planning an effective and economical gift distribution of property interests. Typical estates, both large and small, will be considered in the light of the results commonly sought by the donor and the techniques and restrictions suggested by the law of property, wills, future interests, insurance, and federal and state taxation. Time to be arranged.

468 *Labor Law Seminar (2)*

Merrifield

Group study of contemporary problems in labor law. Time to be arranged.

## MATHEMATICS

James Henry Taylor, Ph.D., *Professor of Mathematics, Executive Officer*  
 Francis Edgar Johnston, Ph.D., *Professor of Mathematics*  
 Florence Marie Mears, Ph.D., *Professor of Mathematics*  
 Nels David Nelson, Ph.D., *Associate Professor of Mathematics*  
 Earl Larkin Williams, A.M., *Lecturer in Mathematics*  
 Joachim Weyl, Ph.D., *Lecturer in Mathematics*  
 Louis William Tordella, Ph.D., *Lecturer in Mathematics*

*Bachelor of Arts or Bachelor of Science with a major in Mathematics (Columbian College—Departmental).*—Prerequisite: the Arts and Letters or the Science curriculum, respectively, in the Junior College, see pages 56-57. Required: in addition to the general requirements as stated on pages 71-76, fifteen credit hours of Mathematics of approved second- and third-group courses.

*Master of Arts or Master of Science in the field of Mathematics (Columbian College).*—Prerequisite: a Bachelor of Arts or Bachelor of Science degree, respectively, with a major in Mathematics at this University, or the equivalent. Required: the general requirements as stated on pages 78-80.

*Bachelor of Science in Engineering with an option in Mathematics (School of Engineering).*—For requirements, see pages 118-20, 124-25.

*Bachelor of Arts in Education with a teaching field in Mathematics (School of Education).*—Prerequisite: the Education curriculum in the Junior College, page 58. Required: the Mathematics option, pages 145-46, and the professional courses listed on pages 147-48.

### FIRST GROUP\*

#### 3 College Algebra (3)

Exponents and logarithms; linear equations; complex numbers; quadratic equations; introduction to theory of equations; mathematics of induction and the binomial theorem; permutations, combinations, and probability; determinants; progressions. Prerequisite: one year each of high school algebra and high school geometry. Morning and evening sections. (Also offered 1952 summer term.)

Mathematics 3x, same as 3, offered spring term. Morning and evening sections.

#### 6 Plane Trigonometry (3)

Prerequisite: two years of high school algebra and one year of high school geometry, or Mathematics 3 (or concurrent registration therefor). Morning and evening sections. (Also offered 1952 summer term.)

Mathematics 6x, same as 6, offered fall term. Morning and evening sections.

#### 12 Analytic Geometry (3)

Prerequisite: Mathematics 3 and 6, or two years of high school algebra, one year of high school geometry, and one-half year of high school trigonometry.

\* No first group course in mathematics is available for college credit if the student's previous training in mathematics meets the prerequisite for a higher numbered course.

trigonometry. Morning and evening sections. (Also offered 1952 summer term.)

Mathematics 12x, same as 12, offered fall term. Morning and evening sections.

19 *Differential Calculus* (3)

The Staff

Prerequisite: Mathematics 12. Morning and evening sections. (Also offered 1952 summer term.)

Mathematics 19x, same as 19, offered spring term. Morning and evening sections.

20 *Integral Calculus\** (3)

The Staff

Prerequisite: Mathematics 19. Morning and evening sections. (Also offered 1952 summer term.)

Mathematics 20x, same as 20, offered fall term. Morning and evening sections.

SECOND GROUP \*

102x *Fundamental Concepts of Mathematics* (3)  
(Not offered in 1952-53.)

112 *Mathematics for Engineers and Scientists* (3) The Staff  
Topics from advanced calculus, partial differential equations, vector analysis, and complex variables. Prerequisite: Mathematics 132. (Not offered in 1952-53.)

123 *Theory of Equations* (3)  
Summer term 1952.

125x *Advanced Algebra* (3)  
Evening.

Tordella

126 *Advanced Analytic Geometry* (3)  
Prerequisite: Mathematics 171. (Not offered in 1952-53.)

132 *Differential Equations* (3) The Staff  
Morning and evening sections. (Also offered 1952 summer term.)  
Mathematics 132x, same as 132, offered fall term. Morning and evening sections.

134 *Introduction to Boundary Value Problems* (3) Taylor  
Prerequisite: Mathematics 132.  
Summer term 1952.

†135-36 *Projective Geometry* (2-2)  
(Not offered in 1952-53.)

139 *Advanced Calculus* (3)  
Morning.

Mears

140 *Introduction to Analysis* (3)  
Prerequisite: Mathematics 139. Time to be arranged.

Mears

\* Mathematics 20 is prerequisite to all second-group courses.



- 141 *Introduction to Infinite Series* (3)  
Evening. Mears
- 167 *Fourier Series and Spherical Harmonics* (3)  
Prerequisite: Mathematics 132. (Not offered in 1952-53.) Taylor
- 171 *Vector Analysis* (3)  
Evening.

## THIRD GROUP

- 202 *Mathematical Logic* (3)  
(Not offered in 1952-53.)
- 220 *Theory of Numbers* (3)  
(Not offered in 1952-53.)
- †237-38 *Theory of Functions* (3-3)  
(Not offered in 1952-53.) Mears
- 242 *Infinite Series* (3)  
Evening.
- 249 *Ordinary Differential Equations* (3)  
(Not offered in 1952-53.) Weyl
- 250 *Integral Equations* (3)  
Evening. Taylor
- 255 *Differential Geometry* (3)  
Evening.
- 257 *Theory of Groups* (3)  
(Not offered in 1952-53.) Johnston
- 265-66 *Modern Algebra* (3-3)  
Evening.
- 268 *Calculus of Variations* (3)  
(Not offered in 1952-53.) Taylor
- 270 *Tensor Analysis* (3)  
Evening.
- 271 *Riemannian Geometry* (3)  
(Not offered in 1952-53.) Weyl
- 277 *Partial Differential Equations* (3)  
Evening.
- 278 *Introduction to Topology* (3)  
(Not offered in 1952-53.) The State
- 295-96 *Reading and Research* (3-3)  
Time to be arranged. The State
- 299-300 *Thesis* (3-3)

## MECHANICAL ENGINEERING

Benjamin Carpenter Cruickshanks, B.S. in M.E., *Professor of Mechanical Engineering, Executive Officer*

Roy Colbert, B.S. in M.E., *Professorial Lecturer on Engineering Administration*

Rudolph Michel, M.S. in M.E., *Professorial Lecturer in Mechanical Engineering*

Robert Gay Trumbull, B.S. in C.E., *Associate Professor of Mechanical Engineering*

\*Charles Edward Greeley, B.S. in M.E., *Associate Professor of Mechanical Engineering*

John Kaye, M.S. in M.E., *Assistant Professor of Mechanical Engineering*

Edward Frederick Kelley, M.S., Ae.E., *Lecturer in Mechanical Engineering*

Edward French Davis, M.S., *Associate in Mechanical Engineering*

Arnold Mayo Kronstadt, B.M.E., *Associate in Mechanical Engineering*

*Bachelor of Mechanical Engineering (School of Engineering).—See pages 118-20 and 123-24 for statement of requirements.*

*Mechanical Engineer (School of Engineering).—See page 125 for statement of requirements.*

### FIRST GROUP

1 *Engineering Survey and Orientation (1)* Cruickshanks and Staff

Open to freshmen only. Afternoon and evening sections.

3 *Mechanical Drawing (2)* Trumbull, Davis  
Drafting-room fee, \$5. Drafting (6 hours)—afternoon and evening sections.

4 *Descriptive Geometry (2)* Trumbull, Davis  
Drafting-room fee, \$5. Drafting (6 hours)—afternoon and evening sections.

7 *Machine Drawing (2)* Trumbull, Goff  
Prerequisite: Mechanical Engineering 3 and 4. Drafting-room fee, \$5. Drafting (6 hours)—afternoon and evening sections.

8 *Mechanism Drawing (2)* Trumbull, Goff  
Prerequisite: Mechanical Engineering 3, 4, and 13. Prerequisite or concurrent registration: Mechanical Engineering 14. Drafting-room fee, \$5. Drafting (6 hours)—afternoon and evening sections.

\* On sabbatical leave 1952-53

**13-14 Mechanism (2-2)**

Prerequisite: Mathematics 19. Prerequisite or concurrent registration: Mathematics 20. Morning and evening sections. Trumbull

**SECOND GROUP****111-12 Thermodynamics (3-3)**

With introductory study of laws of heat transmission. Prerequisite: junior status. Morning and evening sections. Cruickshanks

**115-16 Mechanical Laboratory (2-2)**

Calibration of instruments; calorimetry; testing of prime movers, auxiliaries, combustion engines, and refrigerating machines. Eight-hour power-plant test required. Prerequisite: senior status. Laboratory fee, \$9 a term. Laboratory (6 hours). Afternoon and evening sections. Cruickshanks, Kaye

**126 Methods of Manufacture (2)**

Foundry practices, forging, welding, machine tools, inspection, factory processes. Inspection trips required. Prerequisite: Mechanical Engineering 8 and 14; Civil Engineering 26. Morning and evening sections. Cruickshanks, —

**127-28 Machine Design (2-2)**

With stress-analysis computation and design periods (6 hours). Prerequisite: Mechanical Engineering 7, 8, and 112; Civil Engineering 20, 136, 140, and 141. Drafting-room fee, \$3 a term. Afternoon and evening sections. Kaye, Kronstadt

**129-30 Power Plants (3-3)**

Study of design, layout, installation, and operation of power plants and equipment, with emphasis on heat transmission and instrumentation. Prerequisite: Mechanical Engineering 112. Morning and evening sections. Cruickshanks, —

**131-32 Heating, Ventilating, Air Conditioning, and Refrigeration (2-2)**

Principles and applications. Prerequisite: Mechanical Engineering 112; Civil Engineering 26 and 136. Morning and evening sections. Kaye, —

**133 Combustion Engines (2)**

Study of spark-ignition and compression-ignition engines, combustion performance, fuel, knock, supercharging and combustion charts. Inspection trips required. Prerequisite: Mechanical Engineering 112; senior status. Morning and evening sections. Cruickshanks, —

**139 Fluid Dynamics (3)**

Theory and application of fluid mechanics. Prerequisite: Mechanical Engineering 112; Civil Engineering 140. Morning and evening sections. Mason, Kaye

**140 Dynamics of Machinery (3)**

Inertia effects, balancing, vibration phenomena. Prerequisite: Mechanical Engineering 7, 8, and 14; Civil Engineering 140 and 141. Morning and evening sections. Kaye, Mason



- 141-42 *Management Problems (2-2)* \_\_\_\_\_  
 Organization of an industrial enterprise; the handling and training of men. Prerequisite: Economics 1-2. Morning and evening sections.
- 145 *Production Control and Planning (2)* Colbert  
 Scope of production controls, product analysis, planning and routing systems and methods. Prerequisite: Mechanical Engineering 141-42. Evening.
- 146 *Engineering Patent Procedure (2)* \_\_\_\_\_  
 Nature and purpose of patents, procedures for preparing and filing patent applications, trade marks and design patents, employer-employee relations. Prerequisite: Mechanical Engineering 141-42. Evening.
- 147 *Industrial Labor Relations (2)* \_\_\_\_\_  
 Prerequisite: Mechanical Engineering 141-42. Evening.
- 189-90 *Proseminar in Mechanical Engineering* \_\_\_\_\_  
 (1-1)  
 Prerequisite: Speech 1; senior status. Afternoon and evening sections.

## MEDICINE

- Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Professor of Medicine*  
 Thomas McPherson Brown, A.B., M.D., *Professor of Medicine, Executive Officer*  
 Paul Frederick Dickens, M.D., *Clinical Professor of Medicine*  
 Charles Robert Lee Halley, A.B., M.D., *Clinical Professor of Medicine*  
 Clayton Bernard Ethridge, M.D., *Clinical Professor of Medicine*  
 Sol Katz, B.S., M.D., *Adjunct Clinical Professor of Medicine*  
 Louis Katz Alpert, B.S., M.D., *Adjunct Clinical Professor of Medicine*  
 Joseph Francis Fazekas, B.S., M.D., *Adjunct Clinical Professor of Medicine*  
 Harry Eagle, A.B., M.D., *Professorial Lecturer in Medicine*  
 Norman Hawkins Topping, A.B., M.D., *Professorial Lecturer on Rickettsial Diseases*  
 Robert William Berliner, B.S., M.D., *Professorial Lecturer in Medicine*  
 Henry Field, M.D., *Professorial Lecturer in Medicine*  
 Monroe James Romansky, A.B., M.D., *Associate Professor of Medicine*  
 Peter Diacoumis Comanduras, M.D., M.S., *Associate Clinical Professor of Medicine*  
 John McCallum Evans, A.B., M.D., *Associate Clinical Professor of Medicine*  
 Walter Kendall Myers, B.S., M.D., *Assistant Clinical Professor of Medicine*  
 John Alton Reed, A.B., M.D., *Assistant Clinical Professor of Medicine*  
 Theodore Judson Abernethy, B.S., M.D., *Assistant Clinical Professor of Medicine*  
 William Travis Gibb, Jr., A.B., M.D., *Assistant Clinical Professor of Medicine*  
 Roy Hertz, Ph.D., M.D., *Assistant Clinical Professor of Medicine*  
 Samuel Ross Taggart, M.D., *Assistant Clinical Professor of Medicine*  
 Benjamin Manchester, M.D., *Assistant Clinical Professor of Medicine*  
 \*Clarence Richard Hartman, A.B., M.D., *Assistant Clinical Professor of Medicine*  
 Pearl Holly, M.S., M.D., *Assistant Clinical Professor of Medicine*  
 James Joseph Feffer, A.B., M.D., *Assistant Clinical Professor of Medicine*  
 Watson William Eldridge, Jr., M.D., *Associate in Medicine*  
 Maurice Protas, A.B., M.D., *Associate in Medicine*  
 John Minor, A.B., M.D., *Associate in Medicine*  
 Lawrence Jay Thomas, B.S., M.D., *Associate in Medicine*

\* On national service leave.

- Lawrence Elias Putnam, A.B., M.D., *Associate in Medicine*  
 John Watkins Trenis, A.B., M.D., *Associate in Medicine*  
 Bernard Lauriston Hardin, Jr., A.B., M.D., *Associate in Medicine*  
 Albert David Kistin, A.M., M.D., *Associate in Medicine*  
 Charles William Ordman, A.B., M.D., *Associate in Medicine*  
 Andrew Gabriel Prandoni, B.S., M.D., *Associate in Medicine*  
 Ruth Hechler Wichelhausen, M.D., *Associate in Medicine*  
 Benjamin Calloway Jones, Jr., M.D., *Associate in Medicine*  
 Richard Bernard Castell, A.B., M.D., *Associate in Medicine*  
 Myer Harold Stolar, B.S., M.D., *Associate in Medicine*  
 Sam Thompson Gibson, B.S., M.D., *Associate in Medicine*  
 Walter Lewis Nalls, B.S., M.D., *Associate in Medicine*  
 Thomas Booth Spencer, A.B., M.D., *Associate in Medicine*  
 Alfred Brigulio, M.D., *Associate in Medicine*  
 Halla Brown, M.D., *Associate in Medicine*  
 Ralph Bretney Miller, M.D., *Associate in Medicine*  
 Thomas Stone Sappington, A.B., M.D., *Associate in Medicine*  
 Samuel Jacob Nathan Sugar, Phar.G., M.D., *Associate in Medicine*  
 Joseph Ney, B.S., M.D., *Associate in Medicine*  
 Joseph Beinstein, A.B., M.D., *Associate in Medicine*  
 Frank Solomon Bacon, B.S., M.D., *Associate in Medicine*  
 John Christian Ransmeier, A.B., M.D., *Associate in Medicine*  
 Monte Arnold Greer, A.B., M.D., *Associate in Medicine*  
 James Irving Boyd, M.D., *Lecturer in Medicine*  
 Elizabeth Harman Hill, M.D., *Instructor in Medicine*  
 John Bayne Marbury, M.D., *Clinical Instructor in Medicine*  
 Louis Ross, M.D., *Clinical Instructor in Medicine*  
 James Theodore Burns, M.D., *Clinical Instructor in Medicine*  
 Frederic Dunbar Chapman, A.B., M.D., C.M., *Clinical Instructor in Medicine*  
 Irvin Kerlan, B.S., M.D., C.P.H., *Clinical Instructor in Medicine*  
 Virginia Patterson Beelar, A.B., M.D., *Clinical Instructor in Medicine*  
 Lester Sylvan Blumenthal, A.B., M.D., M.S. in Med., *Clinical Instructor in Medicine*  
 Charles Edward Law, M.D., *Clinical Instructor in Medicine*  
 Emil Herbert Bauersfeld, A.B., M.D., *Clinical Instructor in Medicine*  
 Henry Dunlop Ecker, B.S., M.D., *Clinical Instructor in Medicine*  
 John Wilmer Latimer, Jr., M.D., *Clinical Instructor in Medicine*  
 Luther Henry Snyder, A.B., M.D., *Clinical Instructor in Medicine*  
 Charles Wilson Jones, A.B., M.D., *Clinical Instructor in Medicine*  
 Stanley William Kirstein, M.D., *Clinical Instructor in Medicine*  
 Thomas Joseph Pekin, M.D., *Clinical Instructor in Medicine*  
 Robert George Taylor, M.D., *Clinical Instructor in Medicine*  
 Charles Waters Thompson, M.D., *Clinical Instructor in Medicine*



Maurice Franks, M.D., *Clinical Instructor in Medicine*  
 James Walling Long, M.D., *Clinical Instructor in Medicine*  
 James Francis Ambury, B.S., M.D., *Clinical Instructor in Medicine*  
 William Otis Bailey, Jr., M.D., *Clinical Instructor in Medicine*  
 Harry Clark Bates, B.S., M.D., *Clinical Instructor in Medicine*  
 Robert Norwood Coale, B.S., M.D., *Clinical Instructor in Medicine*  
 Eugene Solomen Gladsden, B.S., M.D., *Clinical Instructor in Medicine*  
 Israel Kessler, M.S., M.D., *Clinical Instructor in Medicine*  
 Maurice Mensh, M.D., *Clinical Instructor in Medicine*  
 Francis James Murray, A.B., M.D., *Clinical Instructor in Medicine*  
 Edwin Pearson Parker III, B.S., M.D., *Clinical Instructor in Medicine*  
 Jack Jacob Rheingold, A.B., M.D., *Clinical Instructor in Medicine*  
 Morris Hirsh Rosenberg, A.B., M.D., *Clinical Instructor in Medicine*  
 Jeanne Cecile Bateman, A.B., M.D., *Clinical Instructor in Medicine*  
 John William Du Chez, M.D., *Clinical Instructor in Medicine*  
 Thomas Lees Hartman, A.M., M.D., *Clinical Instructor in Medicine*  
 William Raymond Merchant, A.B., M.D., *Clinical Instructor in Medicine*  
 Boris Rabkin, A.B., M.D., *Clinical Instructor in Medicine*  
 Morton Harold Rose, M.D., *Clinical Instructor in Medicine*  
 George Sharpe, A.B., M.D., *Clinical Instructor in Medicine*  
 Irene Gorski Tamagna, M.D., *Clinical Instructor in Medicine*  
 Warren Daniel Brill, B.S., M.D., *Clinical Instructor in Medicine*  
 Marvin Fuchs, B.S., M.D., *Clinical Instructor in Medicine*  
 Frank Goodnow MacMurray, A.B., M.D., *Clinical Instructor in Medicine*  
 William Jack Weaver, Jr., A.B., M.D., *Clinical Instructor in Medicine*  
 Ruth Boschwitz Benedict, A.B., M.D., *Clinical Instructor in Medicine*  
 Cyril Augustus Schulman, B.S., M.D., *Clinical Instructor in Medicine*  
 Louis Aleck Craig, Jr., A.B., M.D., *Clinical Instructor in Medicine*  
 Abraham Wolffe Danish, A.B., M.D., *Clinical Instructor in Medicine*  
 Milton Gusack, A.B., M.D., *Clinical Instructor in Medicine*  
 William Lewis, M.D., *Clinical Instructor in Medicine*  
 Arthur Rosenbaum, B.S., M.D., *Clinical Instructor in Medicine*  
 Alvin Seltzer, B.S., M.D., *Clinical Instructor in Medicine*  
 Adolph Friedman, A.B., M.D., *Clinical Instructor in Medicine*  
 Samuel Dennis Loube, A.B., M.D., *Clinical Instructor in Medicine*  
 Celia White Tabor, A.B., M.D., *Clinical Instructor in Medicine*  
 Alvin Edward Parrish, M.D., *Clinical Instructor in Medicine*  
 Nahum Raphael Shulman, M.D., *Clinical Instructor in Medicine*

132 *History of Medicine*  
 One hour a week.

236 *Clinical Microscopy*  
 Conferences and studies in the clinical application of laboratory

The Staff

The Staff

Laboratory

examinations of blood, body fluids, exudates, and excreta. Three hours a week.

241 *Physical Diagnosis I* The Staff  
Theoretical considerations of the principles of physical diagnosis. One hour a week.

242 *Physical Diagnosis II* The Staff  
Covers not only theoretical but practical application of principles of physical diagnosis as related to examination of patients. Six hours a week.

244 *Introduction to Medicine* The Staff  
Lectures covering the principles of internal medicine preparatory to clinical studies and training in the inpatient and outpatient services. Four hours a week.

320 *Medical Jurisprudence* The Staff  
Lectures on the legal and ethical rights of physicians, and on the legal problems with which the physician comes in contact. One hour a week for sixteen weeks.

325-26 *Clinical Clerkships* The Staff  
Training with bed patients under individual instruction designed to develop ability in examination of patients and case taking as well as practice in clinical microscopy. Eight weeks.

327-28 *Clinical Pathological Conferences I* Brown, Choisser  
Required in the third year. Correlation of clinical and post-mortem findings: detailed case description from the clinical point of view followed by demonstrations of post-mortem findings. One hour a week.

339-40 *Therapeutic Conferences I* Staff of Medicine and Pharmacology  
Conferences designed to emphasize the application of pharmacological principles to the problems of clinical medicine. One hour a week.

349-50 *Medical Conferences* The Staff  
Two hours a week.

421-22 *Outpatient Clinics* The Staff  
Individual case studies under personal supervision of the Staff. Daily clinics on current medical problems and seminars stressing physiological aspects of diseases. Individual examinations and instruction in medical specialties. University and Emergency hospitals. Eight weeks.

423-24 *Clinical Clerkship* The Staff  
Available at the University, Emergency, Mt. Alto, and Gallinger hospitals. Eight weeks.

427-28 *Clinical Pathological Conferences II* Brown, Choisser  
Required in the fourth year. Continuation of 327-28. One hour a week, in rotation.

431 *Forensic Medicine* The Staff  
Organized in conjunction with the University Law School for the purpose of acquainting medical students with their legal responsibilities. Three hours a week for four weeks.

## MILITARY SCIENCE AND TACTICS

### UNITED STATES ARMY MEDICAL ROTC UNIT

Ray Lambert Miller, B.S., M.D., Captain, Medical Corps, United States Army, *Instructor in Military Science and Tactics, Executive Officer*

Miller

129-30 *Basic Course, Senior Division Army Medical ROTC (First Year)*

Lectures designed to familiarize the student with the military policy of the United States, organization of the Army and Air Force, organization of the Army and Air Force Medical Service, map and aerial photograph reading, military law, etc.

Miller

247-48 *Basic Course, Senior Division Army Medical ROTC\* (Second Year)*

Instruction in radiological defense, aviation medicine, military preventive medicine, medical aspects of chemical and biological warfare, principles of military leadership, etc.

Miller

329-30 *Advanced Course, Senior Division Army Medical ROTC\* (First Year)*

A course including lectures on military medical research development, bandaging and splinting, field medicine, field surgery, aviation medicine, and military leadership.

Miller

429-30 *Advanced Course, Senior Division Army Medical ROTC (Second Year)*

Lectures on military preventive medicine (advanced), field medicine, physical medicine in the Army, military neuropsychiatry, techniques of instructing, etc.

\* Students in the advanced course are selected from those who satisfactorily complete the basic course, or have one year active federal service.



## NEUROLOGY AND NEUROLOGICAL SURGERY

Walter Freeman, Ph.D., M.D., *Professor of Neurology, Executive Officer*

James Winston Watts, B.S., M.D., *Professor of Neurological Surgery*

Hyman David Shapiro, M.D., *Associate Clinical Professor of Neurology*

Robert Henry Groh, B.S., M.D., *Assistant Clinical Professor of Neurology*

Paul Chodoff, A.B., M.D., *Associate in Neurology*

James Peter Murphy, B.S., M.D., *Associate in Neurological Surgery*

Hugo Victor Rizzoli, A.B., M.D., *Associate in Neurological Surgery*

Jonathan Marshall Williams, M.D., *Associate in Neurological Surgery*

George Davis Weickhardt, M.D., *Clinical Instructor in Neurology*

Oscar Legault, A.B., M.D., *Clinical Instructor in Neurology*

John William Kemble, A.B., M.D., *Clinical Instructor in Neurology*

Marion Ballard Richmond, B.S., M.D., *Clinical Instructor in Neurology*

Harvey Ammerman, B.S., M.D., *Clinical Instructor in Neurological Surgery*

249 *Neuropathology (elective)* Freeman, Legault  
Gross and microscopic preparation of human pathology. Lectures and laboratory demonstrations. One hour a week.

250 *Neurology* Freeman, Shapiro  
Introductory lectures on clinical neurology with specimens, lantern slides, and motion pictures. One hour a week.

331 *Neurology and Neurological Surgery* Watts, Shapiro  
Clinical lectures and demonstrations. One hour a week.

333-34 *Neurology and Neurological Surgery, Clinical Clerkship* Freeman and Staff

Instruction in history, physical examination, ordinary clinical procedures. Attendance at neurological operations. Gallinger Hospital. Six students in rotation, two weeks.

335-36 *Neurological Conference* Freeman and Staff  
Clinical conference one afternoon a week followed by clinicopathologic study of specimens from current necropsies. Gallinger Hospital. Two and one-half hours a week.

431-32 *Neurology and Neurological Surgery* Shapiro, Groh, Weickhardt  
*Clinic and Ward Rounds*  
Neurological outpatient clinic. Consultation of staff on ambulatory cases, demonstration of diagnostic procedures, disposition of neuropsychiatric cases, ward rounds. University and St. Elizabeths hospitals. Two hours a week.

## OBSTETRICS AND GYNECOLOGY

- John Parks, M.S., M.D., *Professor of Obstetrics and Gynecology,  
Executive Officer*
- Radford Brown, M.D., *Clinical Professor of Obstetrics and Gynecology*
- Jacob Kotz, M.D., *Clinical Professor of Obstetrics and Gynecology*
- Henry Lauran Darner, A.B., M.D., *Clinical Professor of Obstetrics  
and Gynecology*
- Herbert Percy Ramsey, A.B., M.D., *Clinical Professor of Obstetrics  
and Gynecology*
- Robert Henry Barter, M.D., *Associate Professor of Obstetrics and  
Gynecology*
- George Nordlinger, A.B., M.D., *Associate Clinical Professor of Ob-  
stetrics and Gynecology*
- Laurence Lee Cockerille, M.D., *Assistant Clinical Professor of Ob-  
stetrics and Gynecology*
- Samuel Mayor Dodek, A.M., M.D., *Assistant Clinical Professor of  
Obstetrics and Gynecology*
- Howard Pope Parker, A.B., M.D., *Associate in Obstetrics and Gynecology*
- Roger O'Donnell, Jr., A.B., M.D., *Associate in Obstetrics and Gynecology*
- Clayton Howard Hixson, M.D., *Associate in Obstetrics and Gynecology*
- Henry John Russell McNitt, B.S. in Med., M.D., *Associate in Obstetrics  
and Gynecology*
- James Albert Dushabek, M.D., *Associate in Obstetrics and Gynecology*
- Clarence Kendall Fraser, Ph.B., M.D., *Associate in Obstetrics and  
Gynecology*
- Barton Winters Richwine, M.D., *Associate in Obstetrics and Gynecology*
- Jeremiah Keith Cromer, M.D., *Associate in Obstetrics and Gynecology*
- Floyd Sterling Rogers, M.D., *Associate in Obstetrics and Gynecology*
- Rufus Martin Roll, A.B., M.D., *Associate in Obstetrics and Gynecology*
- Katherine Elizabeth Parker, A.M., M.D., *Clinical Instructor in Ob-  
stetrics and Gynecology*
- William Dandridge Terrell, Jr., M.D., *Clinical Instructor in Obstetrics  
and Gynecology*
- Julius Robert Epstein, M.D., *Clinical Instructor in Obstetrics and  
Gynecology*
- Morton Selwyn Kaufman, A.B., M.D., *Clinical Instructor in Obstetrics  
and Gynecology*

- Caroline Jackson, A.M., M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 William Thurston Lady, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Jed Williams Pearson, Jr., A.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Samuel Hazen Shea, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Thomas Miles Leonard, Ph.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Albert Seymour Bright, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Shirley Sue Martin, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Neel Jack Price, B.S., M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Roland Essig Bieren, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Alexander LeSueur Russell, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Thomas Ashton Wilson, M.D., *Clinical Instructor in Obstetrics and Gynecology*  
 Marvin Peace Footer, A.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*

254 *Normal Obstetrics*

Fraser, Dodek

Lectures and demonstrations on the physiology and management of normal pregnancy. One hour a week.

301-2 *Manikin Demonstrations*

Footer

The mechanism of labor and various types of operative delivery demonstrated to sections of the junior class in weekly sessions.

337-38 *Abnormal Obstetrics*

Parks, Nordlinger

Lectures and demonstrations on the complications of pregnancy. One hour a week.

343-44 *Gynecology*

Brown, Darner, Barter

Lectures and demonstrations on the principles of gynecology. One hour a week.

441-42 *Clinical Obstetrics*

Parks, Barter

Senior students participate in prenatal and postnatal clinic care; observe the course of labor and deliver patients under supervision; attend biweekly departmental conferences and daily ward rounds in the University and Gallinger hospitals.

443-44 *Clinical Gynecology*

Parks, Barter

Senior students observe and participate in the gynecological clinics and operating rooms of the University and Gallinger hospitals.



## OPHTHALMOLOGY

Ronald Atmore Cox, A.B., M.D., *Professor of Ophthalmology, Executive Officer*

Ernest Alfred Watson Sheppard, M.D., C.M., *Clinical Professor of Ophthalmology*

Richard Wallace Wilkinson, M.S., M.D., *Associate in Ophthalmology*

Carmon Robert Naples, B.S., M.D., *Clinical Instructor in Ophthalmology*

Walter Joseph Romejko, M.D., *Clinical Instructor in Ophthalmology*

William Paxson Chalfant, Jr., M.D., *Clinical Instructor in Ophthalmology*

William Joseph Graham Davis, A.B., M.D., *Clinical Instructor in Ophthalmology*

Robert Edward duPrey, M.S., M.D., *Clinical Instructor in Ophthalmology*

Robert Day, A.B., M.D., *Clinical Instructor in Ophthalmology*

Jorge Guillermo Ramirez, B.S.M., M.D., *Clinical Instructor in Ophthalmology*

### 351-52 *Ophthalmology*

A lecture course presenting the principles of ophthalmology, with special reference to topics of importance to the general practitioner. One hour a week for sixteen weeks.

### 447 *Clinic*

During medical outpatient service, each student is given individual instruction in the ophthalmological aspects of systemic disease.

## OTOLARYNGOLOGY

Daniel Bruce Moffett, A.B., M.D., *Professor of Otolaryngology, Executive Officer*

William Herndon Jenkins, M.D., *Clinical Professor of Otolaryngology*

Leroy Lee Sawyer, Jr., A.B., M.D., *Assistant Clinical Professor of Otolaryngology*

Aubrey David Fischer, M.D., *Associate in Otolaryngology*

Joel Norton Novick, M.S., M.D., *Clinical Instructor in Otolaryngology*

Homer King Vann, A.B., M.D., *Clinical Instructor in Otolaryngology*

Catharine Birch, A.B., M.D., *Clinical Instructor in Otolaryngology*

James Jerry McFarland, Jr., B.S., M.D., *Clinical Instructor in Otolaryngology*

Edward Clifford Jennings, B.S., M.D., *Clinical Instructor in Otolaryngology*

Aram Glorig, Jr., M.D., *Clinical Instructor in Otolaryngology*

Jack Louis Levine, M.D., *Clinical Instructor in Otolaryngology*

Morris Edward Krucoff, B.S., M.D., *Clinical Instructor in Otolaryngology*

### 451 *Otolaryngology*

Moffett, Jenkins

Lectures and demonstrations on anatomy, physiology, and diseases of the ear, nose, and throat. One hour a week.

### 454 *Bronchoscopy*

McFarland

A series of lectures on the fundamental principles and the use of instruments, including both the bronchoscope and esophagoscope. One hour a week for two weeks.

### 456 *Clinic*

The Staff

Practical clinical instruction in the diagnosis and treatment of diseases of the ear, nose, and throat. Gallinger Hospital. One and one-half hours once a week.

## PATHOLOGY

Roger Morrison Choisser, B.S., M.D., *Professor of Pathology, Executive Officer*  
 Thomas Martin Peery, A.B., M.D., *Professor of Pathology*  
 Virgil Heath Cornell, M.D., Dr.P.H., *Professorial Lecturer in Pathology*  
 Robert Pelley Hill, B.S., M.D., *Associate Professor of Pathology*  
 Edward Clifford McGarry, A.B., M.D., *Assistant Professor of Pathology*  
 Frank Nelson Miller, B.S., M.D., *Assistant Professor of Pathology*  
 William John Schewe, B.S., M.D., *Clinical Instructor in Pathology*

### SEMINAR LECTURERS

Elson Bowman Helwig, B.S., M.D., *Professorial Lecturer in Pathology*  
 Hans Frank Smetana, M.D., *Professorial Lecturer in Pathology*  
 Henry Rappaport, M.D., *Professorial Lecturer in Pathology*  
 James Earle Ash, Jr., M.D., *Professorial Lecturer in Pathology*  
 Elizabeth Mapelsden Ramsey, A.B., M.D., *Professorial Lecturer in Pathology*

### 259-60 *Pathology*

Malformations, inflammations, degenerations, and neoplasms; special pathology of the organs and specific diseases. The laboratory work consists of the gross and microscopic study of diseased tissues. Necropsies are held regularly at the University and Gallinger hospitals. Choisser and Staff

### 307 *Necropsy (elective)*

Students assist in the performance of necropsies. Fresh gross specimens and microscopic sections from each case are presented at weekly conferences. Current literature relating to cases is reviewed and presented by the students. The Staff

### 327-28 *Clinical Pathological Conference*

Required in the third and fourth years. Case histories are presented and discussed by members of the staff and student body; necropsy and clinical findings are compared, and gross and microscopic specimens examined. One hour a week. Choisser, Brown

### 460 *Research (arr.)*

Open to qualified nonmedical students. Hours and credits to be arranged. Choisser



## PEDIATRICS

- Preston Alexander McLendon, B.S., M.D., *Professor of Pediatrics, Executive Officer*
- Margaret Mary Nicholson, A.B., M.D., *Clinical Professor of Pediatrics*
- Edward Lewis, M.D., *Clinical Professor of Pediatrics*
- William Staton Anderson, A.B., M.D., *Clinical Professor of Pediatrics*
- Leroy Edward Hoeck, M.D., *Adjunct Clinical Professor of Pediatrics*
- John Phillip McGovern, B.S., M.D., *Assistant Professor of Pediatrics*
- Joseph Michael LoPresti, B.S., M.D., *Assistant Professor of Pediatrics*
- Mabel Harlakenden Grosvenor, A.B., M.D., *Assistant Clinical Professor of Pediatrics*
- John Augustine Washington, B.S., M.D., *Assistant Clinical Professor of Pediatrics*
- Aaron Nimetz, A.B., M.D., *Assistant Clinical Professor of Pediatrics*
- Dorothy Steinle Jaeger-Lee, M.D., *Assistant Clinical Professor of Pediatrics*
- George Maksim, M.D., M.S. in Ped., *Assistant Clinical Professor of Pediatrics*
- Reginald Spencer Lourie, M.D., *Assistant Clinical Professor of Pediatric Psychiatry*
- Samuel Paul Bessman, M.D., *Assistant Clinical Professor of Pediatrics*
- William Allen Howard, A.B., M.D., *Associate in Pediatrics*
- John Howell Peacock, B.S., M.D., *Associate in Pediatrics*
- Maynard Irving Cohen, A.B., M.D., *Associate in Pediatrics*
- Mary Katherine Laurence Sartwell, A.B., M.D., *Associate in Pediatrics*
- Herbert Harold Diamond, M.D., *Clinical Instructor in Pediatrics*
- Reginald Henry Mitchell, M.D., *Clinical Instructor in Pediatrics*
- Charles Frederick Stiegler, A.B., M.D., *Clinical Instructor in Pediatrics*
- Hugh Gambel Clark, A.B., M.D., *Clinical Instructor in Pediatrics*
- Adrian Recinos, Jr., B.S., M.D., *Clinical Instructor in Pediatrics*
- Allan Bertram Coleman, M.D., *Clinical Instructor in Pediatrics*
- Bennet Olshaker, A.B., M.D., *Clinical Instructor in Pediatrics*
- Robert Orr Warthen, M.D., *Clinical Instructor in Pediatrics*
- Emily Annabelle Black, B.S., M.D., *Clinical Instructor in Pediatrics*
- Robert Harper Anderson, M.D., *Clinical Instructor in Pediatrics*
- Warren Godfrey Preisser, A.B., M.D., *Clinical Instructor in Pediatrics*
- John Lewis Siddoway, Jr., M.D., *Clinical Instructor in Pediatrics*
- Robert Edward Martin, M.D., *Clinical Instructor in Pediatrics*
- Muriel Schatz Sowers, A.B., M.D., *Clinical Instructor in Pediatrics*

William Stark, A.B., M.D., *Clinical Instructor in Pediatric Psychiatry*  
 Gordon Walford Daisley, Jr., A.B., M.D., *Clinical Instructor in Pediatrics*

256 *Pediatrics* McLendon and Staff  
 Lectures on physiology of the newborn, development, infant nutrition, diseases of the newborn, common anomalies and system illnesses of childhood. Medical School. Two hours a week.

357-58 *Clinical Clerkship—General Pediatrics* Nicholson, McGovern, and Staff  
 Introduction to clinical pediatrics. Emphasis on bedside discussion and group conferences including the newborn. Daily ward rounds. Gallinger Hospital. Six students in rotation, two weeks.

359-60 *Clinical Clerkship—Contagious Diseases* McGovern and Staff  
 Conferences and bedside discussion in contagious and infectious diseases. Prevention and quarantine measures. Gallinger Hospital. Six students in rotation, two weeks.

361-62 *Clinical Conference* McLendon, McGovern, and Staff  
 Required in third year. Presentation and discussion of current patient problems. Gallinger Municipal Hospital. One hour a week.

365 *Clinical Conference I* McLendon and Staff  
 Required in the third year. Staff and student discussion of diagnosis and management. Medical School. One hour a week.

457-58 *Clinical Clerkship* Anderson, LoPresti, and Staff  
 Full time including assignment to night and holiday admissions. Case studies on wards under direct Resident supervision. Ward rounds with Staff and Residents. Childrens Hospital. Twelve students, six weeks.

459-60 *Outpatient Clinics* LoPresti and Staff  
 Work in Medical and Specialty clinics including surgery, allergy, X-ray, child welfare, cardiology, dermatology, neurology, and child guidance. Childrens Hospital.

461-62 *Clinico-pathological Conference* McLendon, Anderson, LoPresti, Washington  
 Clinical and pathological discussion of recent patient history and laboratory data. Childrens Hospital. Once a week.

463-64 *Group Conferences* Anderson, LoPresti, and Staff  
 Discussion of clinical problems of diagnosis and treatment of current patients. Childrens Hospital. Twice a week.

465 *Clinical Conference II* McLendon, LoPresti, and Staff  
 Required in the fourth year. Case presentation by fourth-year students. Staff and student discussion of diagnosis and management. Medical School. One hour a week.

466 *Child Guidance and Development* Jaeger-Lee, Lourie  
 Lectures to second year class. Clerkship in fourth year including Well Baby Clinic. Group and class conferences.

## PHARMACOLOGY

Paul Kenneth Smith, Ph.D., *Professor of Pharmacology, Executive Officer*

Erwin Ellis Nelson, M.D., Ph.D., *Adjunct Clinical Professor of Pharmacology*

Bernard Beryl Brodie, Ph.D., *Professorial Lecturer in Pharmacology*

Harold George Mandel, Ph.D., *Associate Professor of Pharmacology*

\*Edward Lewis Alpen, Ph.D., *Assistant Professor of Pharmacology*

Pierre Emmanuel Carlo, Ph.D., *Assistant Professor of Pharmacology*

Harriet Mylander Maling, Ph.D., *Assistant Research Professor of Pharmacology*

*Master of Arts or Master of Science in the field of Pharmacology (Columbia College).*—Prerequisite: A Bachelor of Arts or Bachelor of Science degree with a major in Chemistry from this University, or the equivalent. The undergraduate program must include the following courses, or the equivalent: Biology or Zoology 1-2; Zoology 41-42; Physics 6, 7, 8, 55; Chemistry 11-12, 21, 22, 111-12, 151-52, 155, 156. Biochemistry 221-22 and Physiology 115, 117 are recommended as undergraduate electives if the candidate wishes to complete the work for the Master's degree in one year.

Required: Biochemistry 221-22; Physiology 115, 117; Pharmacology 261, 263, 267-68, 269-70, 299-300. The remaining required courses may be selected from Biochemistry 224, 225, 226, 231; Physiology 150; Bacteriology 112, 209, 230; Pharmacology 279-80.

### 261 Pharmacology (5)

The Staff

Lectures and conferences concerning the interaction of drugs and biological systems as a basis for the rational therapy of disease. Open to qualified nonmedical students. Five hours a week.

### 263 Pharmacology Laboratory (2)

The Staff

Laboratory instruction and demonstrations designed to complement the above course. Open to qualified nonmedical students. Five hours a week.

### 265 Chemotherapy (1)

The Staff

Five lectures a week for three weeks. For graduate students. Time to be arranged.

### 267-68 Pharmacological Research (arr.)

The Staff

Primarily for those properly qualified graduate and medical students seeking careers in pharmacology. Hours and credits to be arranged.

### 269-70 Pharmacology Seminar (1-1)

The Staff

Recent advances in pharmacology. For those interested in pharmacological research. Open to qualified nonmedical students. Two hours a week.

\* On national service leave.



279-80 *Special Methods in Research* (arr.)

The Staff

A course to familiarize the student with advanced chemical and physiological methods employed in pharmacological investigations. Open to qualified nonmedical students. Hours and credits to be arranged.

299-300 *Thesis* (3-3)

The Staff

Required of Master of Arts and Master of Science candidates.

339-40 *Therapeutic*

Staff of Pharmacology and Medicine

*Conferences I*

Conferences designed to emphasize the application of pharmacological principles to the problems of clinical medicine. One hour a week.

## PHARMACY

Charles Watson Bliven, M.S., *Professor of Pharmacy, Executive Officer*  
 Salvatore Joseph Greco, Ph.D., *Associate Professor of Pharmacy*  
 John Watson Schermerhorn, Ph.D., *Associate Professor of Pharmaceutical Chemistry*  
 Robert Meyer Leonard, B.S. in Phar., *Assistant Professor of Pharmacology and Pharmacognosy*  
 Carson Gray Frailey, A.B., LL.B., *Lecturer on Pharmaceutical Law*  
 Harold Jerome Bobys, A.B., C.P.A., *Lecturer on Pharmacy Accounting*  
 Charles Byrd Hawthorne, B.S. in Phar., *Lecturer on Pharmacy Management*  
 David Lucian Rice, B.S. in Phar., *Instructor in Hospital Pharmacy*  
 \_\_\_\_\_, *Instructor in Hospital Pharmacy*

## SEMINAR LECTURERS

William Paul Briggs, M.S., Sc.D., *Professorial Lecturer on Pharmacy Training*  
 Carson Peter Frailey, Phar.D., Sc.D., *Professorial Lecturer on Industrial Pharmacy*  
 Frederick John Cullen, Phar.G., M.D., *Professorial Lecturer on Drug Manufacture*  
 James Albert Horton, LL.B., *Professorial Lecturer on Drug Trade Regulations*  
 John Christian Krantz, Jr., Ph.D., *Professorial Lecturer on Pharmaceutical Research*  
 Justin Lawrence Powers, Ph.D., *Professorial Lecturer on Official Drug Standards*  
 Robert Lee Swain, Phar.D., LL.B., *Professorial Lecturer on Contemporary Pharmacy*  
 George Potter Larrick, *Professorial Lecturer on Drug Control*  
 Robert Philip Fischelis, B.S., Phar.D., Sc.D., *Professorial Lecturer on Pharmaceutical Organizations*  
 Daniel Lamont Seckinger, M.D., Dr.P.H., *Professorial Lecturer on Hygiene and Sanitation*

*Bachelor of Science in Pharmacy (School of Pharmacy).—Prerequisite: the Pharmacy curriculum in the Junior College, see page 57. The requirements for the degree are stated on pages 129-31.*  
*Master of Science in Pharmacy (School of Pharmacy).—Prerequisite: the degree of Bachelor of Science from an accredited institution. The requirements for the degree are stated on pages 131-33.*

## FIRST GROUP

- 1-2 *History and Literature of Pharmacy* (2-1) Bliven  
Orientation in pharmacy; a survey of the development of the profession of pharmacy and the literature of pharmacy. Morning.
- 21-22 *General Pharmacy* (4-4) Greco, Bliven, Schermerhorn  
Essential pharmaceutical processes; the theory and manufacture of pharmacopoeial and formulary galenic preparations; the pharmaceutical usage of certain classes of substances and preparations. *Pharmacy 21*.—Laboratory fee, \$9. Lecture (3 hours); laboratory (3 hours)—afternoon. *Pharmacy 22*.—Laboratory fee, \$15. Lecture (3 hours); laboratory (6 hours)—afternoon.
- 23 *Pharmacognosy* (3) Leonard  
Macroscopic and microscopic. Prerequisite: Botany 1. Laboratory fee, \$9. Lecture (2 hours); laboratory (3 hours)—afternoon.
- 25 *Pharmaceutical Calculations* (3) Bliven  
The system of weights and measures and their application in the practice of pharmacy. Morning.

## SECOND GROUP

- 101 *Inorganic Pharmaceutical Chemistry* (3) Schermerhorn  
Inorganic chemistry as it applies to pharmacy. Study of reactions, preparations, and incompatibilities of inorganic pharmaceuticals. Prerequisite: Chemistry 21. Laboratory fee, \$9. Lecture (3 hours)—morning; laboratory (3 hours)—afternoon.
- 102 *Dispensing Pharmacy* (4) Greco  
Compounding of typical prescriptions and a study of incompatibilities. Prerequisite: Pharmacy 22; concurrent registration: Pharmacy 110. Laboratory fee, \$15. Lecture (2 hours); laboratory (6 hours)—afternoon.
- 103 *Dispensing Pharmacy* (4) Greco  
Continuation of Pharmacy 102. Laboratory fee, \$15. Lecture (2 hours); laboratory (6 hours)—afternoon.
- 105-6 *Pharmacology I* (2-2) Leonard  
The general principles of pharmacology; locally acting drugs; chemical therapeutic agents; antibiotics; antianemia drugs; endocrine drugs; vitamins. Prerequisite or concurrent registration: Physiology 110. Morning.
- 107 *Pharmacy Accounting* (3) Bliven  
The financial records required in the operation of a pharmacy. Morning.
- 110 *Chemistry and Pharmacy of Medicinal Products* (3) Schermerhorn  
A study of the chemistry, structural relationship to action, and use of the official and important non-official synthetic and natural organic medicinal compounds. Prerequisite or concurrent registration: Chemistry 152. Morning.



**111 Chemistry and Pharmacy of Medicinal Products (3)** Schermerhorn

A continuation of Pharmacy 110, including laboratory work on the syntheses, chemical and physical properties, and incompatibilities of important organic medicinal products. Prerequisite: Pharmacy 110. Laboratory fee, \$12. Lecture (2 hours)—morning; laboratory (3 hours)—afternoon.

**165-66 Pharmacology II (3-3)** Leonard

Drugs acting on the central nervous system, the autonomic nervous system, and on specific tissues; toxicology; diagnostic drugs; biological assays. Prerequisite: Physiology 115 and 117; Pharmacy 106. Pharmacy 105—morning. Pharmacy 106.—Laboratory fee, \$15. Lecture (2 hours)—morning; laboratory (4 hours)—afternoon.

**167-68 Pharmacology III (3-3)** Leonard

Laboratory work in pharmacological technique. Prerequisite: Pharmacy 106. Prerequisite or concurrent registration: Pharmacy 165. Laboratory fee, \$15 a term. Time to be arranged.

**172 Advanced Dispensing Pharmacy (3)** Greco

The study of special problems in dispensing pharmacy. Prerequisite: Pharmacy 103. Laboratory fee, \$15. Time to be arranged.

**173 Quantitative Pharmaceutical Analysis (3)** Schermerhorn, Bliven

Drug analysis. Prerequisite: Chemistry 22. Laboratory fee, \$15. Lecture (1 hour); laboratory (6 hours). Time to be arranged.

**176 Pharmaceutical Law (2)** C. G. Frailey

Morning.

**178 Pharmacy Management (4)** Hawthorne

Policies and operations relating to the management of a pharmacy. Morning.

**182 Advanced Pharmacology I (2)** Leonard

Special problems in the field of pharmacology. Prerequisite or concurrent registration. Pharmacy 166. Time to be arranged.

**188 Survey** The Staff

A symposium covering the various phases of pharmacy. Required of all majors in Pharmacy. No academic credit. Tuition fee, \$13. Morning.

**190 Hospital Pharmacy (1)** Rice

Organization and functions of hospitals; organization and operation of a hospital pharmacy; professional and sickroom supplies. Prerequisite: Pharmacy 102. Lecture (1 hour)—morning.

**192 Hospital Pharmacy (1)** Rice

Prescription practice in the University Hospital Pharmacy. Prerequisite: Pharmacy 102. Laboratory (3 hours)—time to be arranged. (Also offered 1952 summer term.)

**194 Manufacturing Pharmacy (3)**

The manufacture of bulk pharmaceuticals in the University Hospital pharmacy. Elective for seniors. Lecture (1 hour)—afternoon; laboratory (6 hours)—time to be arranged. Rice

**THIRD GROUP\*****201-2 Survey of Pharmaceutical Literature (1-1)**

Assigned library research on the development of pharmaceutical literature.

**203-4 Special Problems in General Pharmacy (2-2)**

Investigations of problems involved in the manufacture of pharmaceutical preparations on a laboratory scale. Laboratory fee, \$15 a term.

**206 Pharmaceutical Technology (4)**

A study of advanced manufacturing pharmacy, including formula development for the different types of preparations. Laboratory fee, \$15. Lecture (2 hours); laboratory (6 hours).

**215-16 Advanced Pharmacology II (3-3)**

Special studies on biological assay methods. Laboratory fee, \$15 a term. Lecture (1 hour); laboratory (6 hours).

**221-22 Chemistry of Naturally Occurring Organic Medicinal Products (5-5)**

A study of the isolation, chemistry, and relationship between the constitution and physiologic action of alkaloids, fats and sterols, terpenes, carbohydrates, glycosides, and the various biological products. Laboratory fee, \$15 a term. Lecture (3 hours); laboratory (6 hours).

**223-24 Chemistry of Synthetic Organic Medicinal Products (5-5)**

A study of the chemistry and relationship between the structure and physiologic action of hydrocarbons and their derivatives, nitrogen compounds, oxygen compounds, sulfur compounds, and organo-metallic compounds. Laboratory fee, \$15 a term. Lecture (3 hours); laboratory (6 hours).

**225 Determination of Physical Constants (2)**

A laboratory and lecture study of the determination of physical constants of medicinal products. Laboratory fee, \$15. Lecture (1 hour); laboratory (3 hours).

**227 Food and Drug Analysis (4)**

A study of the composition of some common foods and food products. Laboratory fee, \$15. Lecture (2 hours); laboratory (6 hours).

**231 Pharmacology of Anesthetic Drugs (4)**

Theoretical consideration of the principles of anesthesiology and laboratory study of the action of anesthetic drugs. Laboratory fee, \$15.

\* The graduate courses, which are listed in the third group, will not be offered until September 1953.

- 234 *Pharmacology of Autonomic Drugs* (4)  
A study of action and interaction of drugs principally influencing the autonomic nervous system. Laboratory fee, \$15.
- 236 *Experimental Toxicology* (4)  
Pharmacological action of toxic drugs correlated with chemical and pathological studies. Laboratory fee, \$15.
- 251-52 *Graduate Seminar* (1-1)  
Current problems and trends in pharmacy. Required of all students registered for the Master's degree.
- 295-96 *Research* (arr.)  
Investigations of special problems in the major field of study. Credits and fees to be arranged.
- 299-300 *Thesis* (3-3)  
Laboratory fee, \$15 a term.



## PHILOSOPHY

Charles Edward Gauss, Mus.B., Ph.D., *Elton Professor of Philosophy*  
*Executive Officer*

Mary Carman Rose, Ph.D., *Assistant Professor of Philosophy*

*Bachelor of Arts with a major in Philosophy (Columbia College—Field of Study).*—Prerequisite: the Arts and Letters curriculum in the Junior College, including Philosophy 51-52, see page 56. Required: in addition to the general requirements stated on pages 71-76, the grade of pass for the Philosophy major examination at the end of the senior year. The coordinated knowledge upon which the student will be examined is summarized under the following general headings: (1) history of philosophy, (2) logic and theory of knowledge, (3) social philosophy. The Department of Philosophy provides a proseminar (Philosophy 199-200) intended to assist the student in preparing himself for his major examination.

*Master of Arts in the field of Philosophy (Columbia College).*—Prerequisite: an undergraduate major in Philosophy at this University or the equivalent, as attested by the passing of this University's major examination in Philosophy. The following specific courses or the equivalent: Philosophy 111-12, 113, 121-22, and 131. Required: the general requirements as stated on pages 78-80. As much as possible of the required twenty-four credit hours should be in third-group courses. Students electing second-group courses are expected to do more intensive work than is demanded of undergraduates. A general written examination on the problems of the field of Philosophy and a departmental oral examination are required.

### FIRST GROUP

#### 51-52 *Introduction to Philosophy (3-3)*

A critical introduction to the problems of modern philosophy in relation to scientific and social developments since the Renaissance. Morning and evening sections. (Also offered 1952 summer term).

### SECOND GROUP

#### 111-12 *History of Philosophy (3-3)*

History of western philosophy from Thales to Kant. 1952-53 and alternate years, morning. 1953-54 and alternate years, evening.

#### 113 *History of Nineteenth and Twentieth Century Philosophy (3)*

Continuation of Philosophy 111-12. Prerequisite: Philosophy 111-12. 1952-53 and alternate years, evening.

#### 121-22 *Logic and Scientific Method (3-3)*

The study of formal logic and the means of investigation and description employed in the sciences; theory of scientific inference and prediction. 1952-53 and alternate years, morning. 1953-54 and alternate years, evening.

- 131 *Ethics* (3) Rose  
An examination of ethical theories, the relation of ethics to social science and psychology. 1952-53 and alternate years, evening. 1953-54 and alternate years, morning.
- 142 *Metaphysics* (3) Rose  
Problems related to the formation of a world view. Emphasis on the data of modern science and the problems posed by contemporary philosophy. 1952-53 and alternate years, evening.
- 162 *Aesthetics* (3) Gauss  
The problems of appreciation and judgment in the arts, and of theories of the process of artistic creation. Emphasis on contemporary arts and criticism. 1952-53 and alternate years, morning.
- 171-72 *American Philosophy* (3-3) Gauss  
A general history of philosophy in the United States, correlated with the development of European thought. Evening. (Also offered 1952 summer term—Philosophy 172 (3).)
- 180 *Philosophy of History* (3) Gauss  
Problems of historical knowledge and explanation. Critique of philosophies of history. (Not offered in 1952-53.)
- 193 *Topics in Contemporary Philosophy* (3) Gauss  
Intensive study of selected topic of moment. (Not offered in 1952-53.)
- 199-200 *Proseminar: Readings for the Major* (3-3) The Staff  
Conferences and group discussions. Evening.

## THIRD GROUP

- 201-2 *Readings and Research* (3-3) The Staff  
Advanced readings and reports. Investigation of special problems. Time to be arranged.
- 211-12 *Seminar in Plato and Aristotle* (3-3) The Staff  
1952-53 and alternate years, evening.
- 213-14 *Seminar in Seventeenth Century Philosophy* (3-3) The Staff  
(Not offered in 1952-53.)
- 216 *Seminar in Kant* (3)  
(Not offered in 1952-53.)
- 299-300 *Thesis* (3-3) The Staff

## PHYSICAL EDUCATION FOR MEN \*

William Henry Myers, A.M., *Professor of Physical Education for Men, Executive Officer*

Milo Frederick Christiansen, B.S., M.R., *Professorial Lecturer in Physical Education*

‡Cecil Wentworth Morgan, Ph.D., *Professorial Lecturer in Physical Education*

Joseph Henry Krupa, M.S., *Associate Professor of Physical Education for Men*

Raymond George Hanken, B.S. in P.E., *Assistant Professor of Physical Education for Men*

‡Vincent James DeAngelis, B.S. in P.E., A.M. in Ed., *Assistant Professor of Physical Education for Men*

William Jennings Reinhart, B.B.A., *Associate in Physical Education for Men*

John Howell Rowland, LL.B., *Associate in Physical Education for Men*

Eugene Hugh Sherman, Sr., B.S., *Associate in Physical Education for Men*

Matthew Zunic, B.S., *Associate in Physical Education for Men*

This Department includes all the recognized athletic activities of the men students of the University.

Two years of Physical Education (Physical Education 1-2 and 11-12) are required of all men for graduation, except those students exempt under the regulations stated on page 41.

Upon entering the University, all freshmen or other undergraduate students who have not fulfilled the Physical Education requirement are given a medical examination. Assignments for medical examinations will be given at the time of registration. The students who satisfy the requirements of the medical examination are then given a physical efficiency test in the general bodily skills of agility, endurance, and strength; and in swimming. If the physical efficiency test is passed, the student may elect from the following list of activities:

Setting-up Exercises (stretching exercises)

Body Building Exercises (gymnastic apparatus and weight lifting skills)

Competitive Exercises (modified games and sports)

Swimming Exercises (distance, speed, and life saving)

If the physical efficiency test is not passed, the student will be assigned to a class for training in the above activities in the order listed.

The Department furnishes gymnasium uniforms and personal equipment upon a small payment.

*Bachelor of Science in Physical Education (School of Education).*—Prerequisite: the Physical Education for Men curriculum in the Junior College, see page 59. The requirements for the degree are stated on pages 137-38, 139-40.

\* The University is not responsible for injuries received in intercollegiate or intramural games or in any of the activities of the departments of Physical Education.

‡ On national service leave.



*Master of Arts in Education in the field of Physical Education (School of Education).*—Prerequisite: a Bachelor's degree from an accredited institution. The requirements for the degree are stated on pages 149-50.

## FIRST GROUP

- 1-2 *Freshman Physical Education\** (2-2) The Staff  
Four periods of supervised activity a week. Locker and towel fee,‡ \$3 a term. Assignment for activities and time to be arranged.
- 11-12 *Sophomore Physical Education\** (2-2) The Staff  
Four periods of supervised activity a week. Locker and towel fee,‡ \$3 a term. Assignment for activities and time to be arranged.
- 43-44 *Techniques of Physical Education Motor Activities* (2-2) The Staff  
Fundamental skills, rules, and organization. Locker and towel fee,‡ \$3 a term. Morning and afternoon sections.
- 45-46 *Methods and Materials for Teaching Individual and Dual Sports in Secondary Schools* (2-2) Hanken, Krupa, Tate  
Tennis, golf, archery, swimming, wrestling, badminton, bowling. Locker and towel fee,‡ \$3 a term. Afternoon.
- 47 *Introduction to Physical Education* (2) Myers  
An orientation course presenting the problems of physical education, vocational analysis, scientific foundations, and scope of field. Morning.
- 48 *Introduction to Recreation* (2) Myers  
The role of recreation in modern living; current practices in community recreation work; standards of training, experience, and salary; types of leadership needed. Time to be arranged.
- 49 *Human Anatomy* (3) Tate  
The structure of the human body. Basic course for physical education majors. Also open to both men and women not majoring in Physical Education. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.
- 50 *Kinesiology* (3) Tate  
A study of the anatomical mechanism of movement, analysis of the action of muscles in physical education activities. Prerequisite: an approved course in anatomy. Morning.
- 58 *First Aid and Care of Athletic Injuries* (2) Myers, Lawrence  
Prevention and emergency care of injuries of all types, with special reference to first aid, bandaging, and massage. A practical course. Prerequisite: Biology 1-2 or Zoology 1-2. Afternoon.

\* Freshmen and sophomores in the School of Engineering and the School of Pharmacy are required to take two, instead of four, periods of Physical Education a week for which they receive one, instead of two, credits a term.

‡ The locker and towel fee is required for registration in one or more of the activity courses.

## SECOND GROUP

- 101 *Physical Education in the Elementary School* (3) Burtner  
Physical growth and development of the child and adolescent. Survey of age characteristics and organization of physical education activities for the various age levels in elementary school, playground, and settlement house programs. Methods and materials in tumbling, games, rhythms, and self-testing activities. Morning and evening sections.
- 102 *Techniques for Teaching Recreational Dance* (1) Burtner  
Methods and materials for teaching the country and social dances of America and the folk dances of other countries to secondary-school age and adult groups. Square-dance calling is included. Afternoon.
- 103 *History and Principles of Physical Education* (3) Atwell  
Survey of history as it relates to contemporary physical education. Study of aims, objectives, and philosophy of physical education. Morning.
- 105-6 *Corrective Physical Education and Physical Examinations* (3-3) Lawrence  
Cause and correction of faulty body mechanics, physical examination methods for the diagnosis of postural defects, prescription of exercises and program adaptation. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.
- 109-10 *Leadership Organization in the Intramural Program* (2-2) Krupa  
Principles of administration, organization, and supervision of intramural activities in the physical education program of the junior high school, senior high school, and college. Afternoon.
- 113-14 *Methods and Practice in Teaching Physical Education Activities* (2-2) The Staff  
Principles and methods applied to learning and teaching physical education activities. Supervised laboratory. Morning and afternoon sections.
- 115-16 *Methods and Materials for Teaching Team Sports in Secondary Schools* (2-2) The Staff  
Section A (women): field hockey, basketball, softball, soccer, speedball, volleyball. Afternoon. Section B (men): football, basketball, baseball, track and field. Afternoon. Locker and towel fee.\* \$3 a term.
- 118 *Methods of Teaching Modern Dance* (2) Burtner  
Techniques for the teaching of movement as a medium of expression. Practical work in body technique, composition, and the analysis of accompaniment for dance including instrumental, voice, and percussion.

\* The locker and towel fee is required for registration in one or more of the activity courses.

Application is made to both secondary-school and adult age levels. Afternoon.

- 121 *School and Community Health Programs* (3) Lawrence  
Health services, healthful environment, health instruction, sources of material for general health knowledge. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.
- 122 *Methods and Materials of Health Education* (3) Atwell  
Organization and presentation of health materials for each age level. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.
- 131 *Tests and Measurements in Physical Education* (3) Atwell  
Critical survey tests in physical activities, methods of test construction, elementary statistics. Morning.
- 132 *Camp Leadership* (1) Atwell  
Survey course in camp counseling. Afternoon.
- 133-34 *Observation and Practice Teaching* (3-3) Atwell, Myers  
Assignments are made to schools in Washington and the vicinity. Practice teaching fee, \$9 a credit hour. Time to be arranged.
- 136 *Survey of Dance History and Dance Forms* (3) Burtner  
The development of dance from primitive ritual to present day recreational and art forms of the dance. Includes ethnologic dance, practice and discussion of fundamental movement techniques and composition. Evening.
- 138 *Organization and Administration of Physical Education* (3) Atwell, Myers  
Organization and administration of physical education programs in elementary and secondary schools and in colleges. Study of plants, fields, equipment, and programs. Morning.
- 151-52 *Recreational Leadership Activities* Christiansen  
(1-3, 1-3)  
Fall term: basic skills for the pre-school and school-age child. Laboratory practice in crafts, music, dramatics, physical and social activities. Spring term: basic skills for the teen-age and adult. Arts and crafts, dramatics, physical and social activities. 1952-53 and alternate years, evening.
- 161 *Community Organization for Recreation* (3)  
Resources, principles, and methods in organizing community recreation services. 1953-54 and alternate years, evening.
- 162 *Administration of Community Recreation Programs* (3)  
Factors and problems in administering recreation including surveys, legislation, program, area, facilities, leadership, finance, and public relations. 1953-54 and alternate years, evening.



## THIRD GROUP

- 211 *Problems in Physical Education* (3) Anderson.  
For experienced teachers. Organization, supervision, and curriculum problems growing out of current issues; program planning policies; competition. 1952-53 and alternate years, evening.
- 220 *Problems in Health Education* (3)  
Health needs; policies and program planning; use of community resources; promising practices in the field. 1952-53 and alternate years, evening.
- 231 *Evaluation in Physical Education* (3)  
Planning the evaluation program; review of outcomes; analysis of tests and standards; administration and interpretation of tests; guidance. 1953-54 and alternate years, evening.
- 240 *Physical Education for the Atypical* (3)  
Adaptations of activities to meet the special needs of students with physical disabilities resulting from such conditions as postural deviations, cardiac irregularities, operations, and poliomyelitis. 1953-54 and alternate years, evening.

## PHYSICAL EDUCATION FOR WOMEN \*

Ruth Harriet Atwell, A.M., *Professor of Physical Education for Women, Executive Officer*

Helen Bennett Lawrence, A.M., *Professor of Physical Education for Women*

George Frederick Anderson, M.S., Ed.D., *Professorial Lecturer in Physical Education*

Elizabeth Burtner, A.M., *Associate Professor of Physical Education for Women*

Marjorie Tate, A.M., *Assistant Professor of Physical Education for Women*

Nancy Carolyn Rupp, B.S., *Instructor in Physical Education for Women*

Helen Taylor Harris, A.M., *Associate in Physical Education for Women*

Two years of Physical Education (Physical Education 1-2 and 11-12) are required of all women for graduation, except of students exempt under the regulations stated on page 41. In the fall a complete medical and physical examination is given each student for the purpose of discovering individual needs. Those students whose examinations indicate the desirability of remedial or restricted activity are assigned to a program especially adapted to their needs. This limited program includes moderate sports and individual exercises in small groups under careful supervision.

The required costume for Physical Education classes may be purchased at the Cooperative Store.

*Bachelor of Science in Physical Education (School of Education).*—Prerequisite: the Physical Education for Women curriculum in the Junior College, see page 59. The requirements for the degree are stated on pages 137-38, 140-41.

*Master of Arts in Education in the field of Physical Education (School of Education).*—Prerequisite: a Bachelor's degree from an accredited institution. The requirements for the degree are stated on pages 149-50.

### FIRST GROUP

#### 1-2 *Freshman Physical Education (1-1)*

One period of fundamentals of health, physical education, and recreation, and two periods of activity a week.

Fundamentals of health, physical education, and recreation; study of the factors involved in the maintenance of health and in the efficient use of the body, and practice in activities adapted for leisure time. Morning and afternoon sections.

Activities: riding, field hockey, folk and square dance, modern dance, bowling, roller skating, basketball, badminton, individual body mechanics, swimming, tennis, softball, archery, golf, canoeing. Locker and towel fee, \$3 a term. Morning and afternoon sections.

The Staff

\* The University is not responsible for injuries received in intercollegiate or intramural games, or in any of the activities of the departments of Physical Education.

† The locker and towel fee is required for registration in one or more of the activity courses.

### 11-12 *Sophomore Physical Education (1-1)*

Activities: same as Physical Education 1-2. Locker and towel fee.\* \$3 a term. Two periods a week; morning and afternoon sections. The State

### 43-44 *Techniques of Physical Education Motor Activities (2-2)*

Fundamental skills, rules, and organization. Locker and towel fee.\* \$3 a term. Morning and afternoon sections. The State

### 45-46 *Methods and Materials for Teaching Individual and Dual Sports in Secondary Schools (2-2)*

Tennis, golf, archery, swimming, badminton, bowling. Locker and towel fee.\* \$3 a term. Afternoon. Hanken, Krupa, Tait

### 47 *Introduction to Physical Education (2)*

An orientation course presenting the problems of physical education, vocational analysis, scientific foundations, and scope of field. Morning. Myers

### 48 *Introduction to Recreation (2)*

The role of recreation in modern living; current practices in community recreation work; standards of training, experience, and types of leadership. Time to be arranged. Myers

### 49 *Human Anatomy (3)*

The structure of the human body. Basic course for physical education majors. Also open to both men and women not majoring in Physical Education. Prerequisite: Biology 1-2 or Zoology 1-2. Morning. Tait

### 50 *Kinesiology (3)*

A study of the anatomical mechanism of movement, analysis of action of muscles in physical education activities. Prerequisite: approved course in anatomy. Morning. Myers, Lawrence

### 58 *First Aid and Care of Athletic Injuries (2)*

Prevention and emergency care of injuries of all types, with special reference to first aid, bandaging, and massage. A practical course. Prerequisite: Biology 1-2 or Zoology 1-2. Afternoon. Myers, Lawrence

## SECOND GROUP

### 101 *Physical Education in the Elementary School (3)*

Physical growth and development of the child and adolescent. Survey of age characteristics and organization of physical education activities for the various age levels in elementary school, playground, and settlement house programs. Methods and materials of music, games, rhythms, and self-testing activities. Morning and evening sessions. Burr

\* The locker and towel fee is required for registration in one or more of the activities.



- 102 *Techniques for Teaching Recreational Dance (1)* Burtner  
Methods and materials for teaching the country and social dances of America and the folk dances of other countries to secondary-school age and adult groups. Square-dance calling is included. Afternoon.
- 103 *History and Principles of Physical Education (3)* Atwell  
Survey of history as it relates to contemporary physical education. Study of aims, objectives, and philosophy of physical education. Morning.
- 105-6 *Corrective Physical Education and Physical Examinations (3-3)* Lawrence  
Cause and correction of faulty body mechanics, physical examination methods for the diagnosis of postural defects, prescription of exercises and program adaptation. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.
- 109-10 *Leadership Organization in the Intramural Program (2-2)* Krupa  
Principles of administration, organization, and supervision of intramural activities in the physical education program of the junior high school, senior high school, and college. Afternoon.
- 113-14 *Methods and Practice in Teaching Physical Education Activities (2-2)* The Staff  
Principles and methods applied to learning and teaching physical education activities. Supervised laboratory. Morning and afternoon sections.
- 115-16 *Methods and Materials for Teaching Team Sports in Secondary Schools (2-2)* The Staff  
Section A (women): field hockey, basketball, softball, soccer, speedball, volleyball. Afternoon. Section B (men): football, basketball, baseball, track and field. Afternoon. Locker and towel fee,\* \$3 a term.
- 118 *Methods of Teaching Modern Dance (2)* Burtner  
Techniques for the teaching of movement as a medium of expression. Practical work in body technique, composition, and the analysis of accompaniment for dance including instrumental, voice, and percussion. Application is made to both secondary-school and adult age levels. Afternoon.
- 121 *School and Community Health Programs (3)* Lawrence  
Health services, healthful environment, health instruction, sources of material for general health knowledge. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.

\* The locker and towel fee is required for registration in one or more of the activity courses.

- 122 *Methods and Materials of Health Education* (3) Atwell  
Organization and presentation of health materials for each age level.  
Prerequisite: Biology 1-2 or Zoology 1-2. Morning.
- 131 *Tests and Measurements in Physical Education* (3) Atwell  
Critical survey of tests in physical activities, methods of test construction, elementary statistics. Morning.
- 132 *Camp Leadership* (1) Atwell, Myers  
Survey course in camp counseling. Afternoon.
- 133-34 *Observation and Practice Teaching* (3-3) Atwell, Myers  
Assignments are made to schools in Washington and the vicinity.  
Practice teaching fee, \$9 a credit hour. Time to be arranged.
- 136 *Survey of Dance History and Dance Forms* (3) Burton  
The development of dance from primitive ritual to present day recreational and art forms of the dance. Includes ethnologic dance, and discussion of fundamental movement techniques and composition. Evening.
- 138 *Organization and Administration of Physical Education* (3) Atwell, Myers  
Organization and administration of physical education programs in elementary and secondary schools and in colleges. Study of personnel, fields, equipment, and programs. Morning.
- 151-52 *Recreational Leadership Activities* (1-3, 1-3) Christiansen  
Fall term: basic skills for the pre-school and school-age child. Laboratory practice in crafts, music, dramatics, physical and social activities. Spring term: basic skills for the teen-age and adult. Activities in crafts, dramatics, physical and social activities. 1952-53 and alternate years, evening.
- 161 *Community Organization for Recreation* (3)  
Resources, principles, and methods in organizing community recreation services. 1953-54 and alternate years, evening.
- 162 *Administration of Community Recreation Programs* (3)  
Factors and problems in administering recreation including survey, legislation, program, area, facilities, leadership, finance, and public relations. 1953-54 and alternate years, evening.

## THIRD GROUP

- 211 *Problems in Physical Education* (3) Anderson  
For experienced teachers. Organization, supervision, and curriculum problems growing out of current issues; program planning and competition. 1952-53 and alternate years, evening.

220 *Problems in Health Education (3)*

Health needs; policies and program planning; use of community resources; promising practices in the field. 1952-53 and alternate years, evening.

231 *Evaluation in Physical Education (3)*

Planning the evaluation program; review of outcomes; analysis of tests and standards; administration and interpretation of tests; guidance. 1953-54 and alternate years, evening.

240 *Physical Education for the Atypical (3)*

Adaptations of activities to meet the special needs of students with physical disabilities resulting from such conditions as postural deviations, cardiac irregularities, operations, and poliomyelitis. 1953-54 and alternate years, evening.



## PHYSICAL MEDICINE AND REHABILITATION

Charles Samuel Wise, B.S., M.D., *Professor of Physical Medicine and Rehabilitation, Executive Officer*

Josephine Jordan Buchanan, A.M., M.D., *Assistant Clinical Professor of Physical Medicine and Rehabilitation*

Alvin Knudson, B.S., M.D., *Associate in Physical Medicine and Rehabilitation*

John Herman Kuitert, A.B., M.D., *Associate in Physical Medicine and Rehabilitation*

Jasper Wayne McFarland, B.S., M.D., *Clinical Instructor in Physical Medicine and Rehabilitation*

### 150 *Elements of Physical Medicine*

In arrangement with the Anatomy Department, lectures and demonstrations of the various tests and measurements are employed in the evaluation of physical disability. Emphasis is placed on normal and abnormal peripheral nerve testing (electrodiagnosis), muscle testing, joint range, and other physical disability measurements. The Staff

### 351-52 *Advanced Physical Medicine*

Lectures and demonstrations concerning the various techniques, clinical applications of physical medicine and rehabilitation to be integrated with the teaching of the associated medical and surgical specialties. The Staff

### 467-68 *Clinical Studies*

Clinical teaching and demonstration at the University Hospital. The Staff

### 485 *Research (arr.)*

Open to medical students and qualified nonmedical students. Hours and credits to be arranged. The Staff

## PHYSICS

Thomas Benjamin Brown, Ph.D., *Professor of Physics, Executive Officer*  
 Walter Lynn Cheney, Ph.D., *Professor of Physics*  
 George Gamow, Physics D., *Professor of Theoretical Physics*  
 George Martin Koehl, A.M., *Professor of Physics*  
 Robert Randal Meijer, Ph.D., *Associate Professor of Physics*  
 Charles Ravitsky, M.S. in Ed., *Lecturer in Physics*  
 \*William Franklin Heckert, M.S., *Instructor in Physics*  
 William Ashley Tanner, B.S., *Instructor in Physics*  
 Albert Prentice Kenyon, A.M., *Associate in Physics*  
 Philip Krupen, A.M., *Associate in Physics*  
 John Newell Tevis, A.M., *Associate in Physics*  
 DeWitt Fisher, A.M., *Associate in Physics*  
 Walter Louis Asling, A.M., *Associate in Physics*

*Bachelor of Arts or Bachelor of Science with a major in Physics (Columbia College—Departmental).*—Prerequisite: the Arts and Letters or the Science curriculum, respectively, in the Junior College, see pages 56-57. The following courses must be included: Physics 6, 7, 8, and 55; Chemistry 21; Mathematics 19 and 20.

Required, for both the Bachelor of Arts degree and the Bachelor of Science degree: the general requirements as stated on pages 71-76, including Mathematics 132 and Physics 101, 102, 105, 106, 113, and 155 or 156, plus one of the following: Physics 114, 123, 128, and 132.

*Master of Science in the field of Physics (Columbia College).*—Prerequisite: a Bachelor's degree with a major in Physics at this University, or the equivalent. Required: the general requirements as stated on pages 78-80. The thirty hours of required work must include Mathematics 171 (if not taken earlier) and Physics 211-12 and 255 or 256.

*Bachelor of Science in Engineering with an option in Physics (School of Engineering).*—For requirements, see pages 118-20 and 124-25.

*Bachelor of Arts in Education with a teaching field in Physics (School of Education).*—Prerequisite: the Education curriculum, page 58. Required: the Physics option, page 146, and the professional courses listed on pages 147-48.

### FIRST GROUP

#### 5 General Physics (3)

Koehl and Staff

An introduction to the phenomena of light, heat, force, energy, and the properties of matter. This course may be taken as a terminal course by non-science students who wish an introduction to the physical sciences. Prerequisite: high school algebra and plane geometry. Material fee, \$9. Lecture (1 hour); recitation (1 hour); laboratory (2½ hours). Morning, afternoon, and evening sections.

Physics 5x, same as 5, offered spring term. Lecture (1 hour)—morning and evening sections; recitation (1 hour)—morning, after-

\* On national service leave.

noon, and evening sections; laboratory (2½ hours)—morning, afternoon, and evening sections.

#### 6 General Physics (3)

Mechanics, wave-motion, sound, and optical instruments. Offered spring term. Prerequisite: Physics 5\*; high school algebra and plane geometry. Material fee, \$9. Lecture (1 hour); recitation (1 hour); laboratory (2½ hours). Morning, afternoon, and evening sections. (Also offered 1952 summer term.)

Cheney and Staff

#### 7 General Physics (3)

Elementary electricity and magnetism. Offered fall term. Prerequisite: Physics 5\*; high school algebra and plane geometry. Material fee, \$9. Lecture (1 hour); recitation (1 hour); laboratory (2½ hours). Morning, afternoon, and evening sections. (Also offered 1952 summer term.)

Meijer and Staff

#### 8 General Physics (3)

This course is the fourth in the sequence of courses 5, 6, 7, and 8 and emphasizes the connection between the fundamental principles studied in courses 5, 6, and 7, and the phenomena and theories of modern physics. Topics considered include electromagnetic waves (light, radio, and X-rays), atomic and molecular structure, radioactivity, nuclear physics, the quantum theory of matter and radiation, and the elementary particles such as electrons, protons, neutrons, and mesons. Prerequisite: Physics 6 and 7. Morning and evening sections. (Also offered 1952 summer term.)

Brown and Staff

#### 55 Physical Measurements (2)

Theory and methods of precise measurement in the several fields of physics. Prerequisite: Physics 6 and 7. and Mathematics 19. Material fee, \$9. Lecture (1 hour); laboratory (2½ hours)—afternoon and evening sections.

Cheney and Staff

### SECOND GROUP

#### 101 Mechanics (3)

Statics, elasticity, dynamics of solids and fluids, and gravitation. Prerequisite: Physics 6; Mathematics 20. 1952-53 and alternate years, morning; 1953-54 and alternate years, evening.

Kees

#### 102 Heat and Thermodynamics (3)

Thermometry, calorimetry, heat conduction, the laws of thermodynamics with application to physical systems. Prerequisite: Physics 8; Mathematics 20. 1952-53 and alternate years, morning; 1953-54 and alternate years, evening.

Cheney

#### 105 Principles of Electricity (3)

Fundamental phenomena of electricity and magnetism; circuit theory including elementary alternating-current circuits; terrestrial magnetism.

Brown

\* This prerequisite may be waived for students who have credit for a high school physics course which included individual laboratory work, providing they pass the qualifying examination given at the dates specified in the University calendar.



ism; atmospheric electricity. Prerequisite: Physics 8; Mathematics 20. 1952-53 and alternate years, evening; 1953-54 and alternate years, morning.

106 *Optics* (3)

Koehl

Geometrical optics: elementary theory of wave motions; interference, diffraction, polarization, and dispersion of light; laws of black-body radiation. Prerequisite: Physics 8; Mathematics 20. 1952-53 and alternate years, evening; 1953-54 and alternate years, morning. (Also offered 1952 summer term.)

110 *Philosophical Foundations of Modern Physics* (3)

Gamow

A non-mathematical treatment. Einstein's ideas of space, time, and motion; the expanding universe; quantum theories concerning the structure of matter; protons, neutrons, mesons, and other elementary particles; the principle of uncertainty; statistical methods of physics; application of physics to the problems of living matter. Prerequisite: high school algebra and one year of college science. Not open to majors in physics or chemistry. 1953-54 and alternate years.

113 *Atomic Physics* (3)

Meijer

Properties of the electron and the other fundamental particles of physics; the photoelectric effect; X-rays and crystal structure; wave aspects of particles; elements of the quantum theory; atomic spectra and atomic structure. Prerequisite: Physics 8; Mathematics 20. Evening. (Also offered 1952 summer term.)

114 *Statistical Physics* (3)

Meijer

Introduction to the applications of both classical and quantum statistics to the physics of solids, liquids, and gases. Topics discussed include fluctuations in gases and liquids, equipartition of energy, specific heats of solids, and experimental errors. Prerequisite: Physics 113. Evening.

123 *Nuclear Physics* (3)

Gamow

Radioactivity, nuclear transformations, new particles; astrophysical applications. Prerequisite: Physics 113. Evening.

124 *Modern Cosmology* (3)

Gamow

Structure of stars; nuclear energy sources of stars; stellar evolution and explosion; Einstein theory of gravitation; relativistic cosmology; expanding universe; origin of galaxies, stars, and planets. Prerequisite: Physics 123; Mathematics 132. 1952-53 and alternate years, evening.

128 *Sound* (3)

Cheney

Production, propagation, and detection of sound waves; vibrations of sounding bodies, acoustic instruments and acoustic measurements. Prerequisite: Physics 8; Mathematics 20. (Not offered in 1952-53.)

132 *Electronics* (3)

Brown, Meijer, and Staff

The phenomena of electron emission from solids; the physical properties of electron tubes, and the principles underlying their basic appli-

- cations. Prerequisite: Physics 8 and 55, and Physics 105 or Electrical Engineering 10. Material fee, \$9. Lecture (2 hours); laboratory (2 hours)—afternoon and evening sections.
- 133 *Electronic Circuits* (3) Brown  
A continuation of Physics 132. Includes basic radiofrequency applications of electron tubes, and special types of tubes such as klystrons, resonators, and magnetrons. Lectures and problems. Prerequisite: Physics 132; Electrical Engineering 107. Evening.
- 136 *Electrical Conduction in Gases* (3) Brown  
Fundamental theory and principal applications. Ionization currents; Townsend currents, and plasma currents; ion sheaths and probe measurements; glow discharges, arcs, sparks; ionization chambers, counter tubes, vacuum gauges, glow lamps, thyratrons, and ignitrons. Prerequisites: Physics 8 and Mathematics 20. (Not offered in 1952-53.)
- 155-56 *Advanced Physical Measurements* (3-3) Meijer  
Optional programs of experiments in electricity and magnetism, optics or atomic physics. Corresponding prerequisites are Physics 135, 136 or 113. In addition, Physics 55 is a general prerequisite. Material fee \$9. Afternoon and Saturday sections.
- 191X *Nuclear Reactors* (3) Beckerley  
Neutron physics: sources of neutrons, neutron reactions, slowing down and diffusion; introduction to transport theory; fission process; reactor types; basic theory of homogeneous and heterogeneous reactors. Prerequisite: Physics 8; Mathematics 20. Summer term 1952.

## THIRD GROUP

- 211-12 *Classical Physical Theory* (3-3) Chen  
Fall term: dynamics of systems of particles and of rigid bodies, canonical coordinates. Spring term: dynamics of elastic bodies and fluids; electromagnetic field theory. Prerequisite: Physics 131 and 135; Mathematics 132 and 171. Evening.
- 213-14 *Electromagnetic Radiation* (3-3) Brown  
Electromagnetic theory as applied to light and radio waves, with special consideration given to "micro-waves". Prerequisite: Physics 135 and Mathematics 132, or the equivalent. 1953-54 and alternate years.
- 215 *Physics of the Solid State* (3) Meijer  
Theory and experimental techniques connected with the physical properties of the various solid types. Topics to be discussed include the structure of solids, their thermal and mechanical properties, the electronic behavior of metals, semi-conductors, etc., and the magnetic and optical properties of solids. Prerequisite: Physics 114. (Not offered in 1952-53.)
- 217 *Classical Thermodynamics* (3) Gather  
The fundamental laws of thermodynamics and their application to various physical phenomena; statistical interpretation of basic concepts.

cepts; limitations of thermodynamical deductions; paradoxes of classical statistical theory. Prerequisite: Physics 102, 114; Mathematics 132. 1953-54 and alternate years.

**218 Quantum Statistics (3)**

Gamow

Statistical theory based on the indistinguishability of particles; Bose-Einstein and Fermi-Dirac statistics; applications to electron gas, liquid helium, etc. Prerequisite: Physics 217. 1953-54 and alternate years.

**221 Wave Mechanics (3)**

Gamow

Criticism of classical ideas of mechanics and a formulation of wave-mechanical equations; matrix mechanics and its relation to wave mechanics; applications to various problems of atomic, molecular, and nuclear Physics. Prerequisite: Physics 113-14 and 211-12. 1952-53 and alternate years, evening.

**222 Relativistic Quantum Theory (3)**

Gamow

Interaction between matter and radiation; positive and negative electrons and their properties; beta transformations; mesons and the problem of nuclear forces. Prerequisite: Physics 221. 1952-53 and alternate years, evening.

**255-56 Graduate Laboratory (3-3)**

Brown

Special topics. One term of this course is required of all Master's candidates in physics. Not open to undergraduates. Material fee, \$9 a term. Afternoon and Saturday sections.

**291-92 Seminar: Recent Developments in Physics (1-1)**

The Staff

Individual investigations of special problems. All students registered for a Master's degree in physics are expected to attend this seminar during residence for the degree, and to take part in its programs. Credit for participation in the seminar work may be obtained by registering for this course during the last two terms of residence; this credit, however, is based upon the seminar work during the entire period of residence. Alternate weeks, evening.

**299-300 Thesis (3-3)**

The Staff

Time and fees to be arranged.



## PHYSIOLOGY

Errett Cyril Albritton, A.B., M.D., *Fry Professor of Physiology*  
 Chester Elwood Leese, Ph.D., *Professor of Physiology, Executive Officer*  
 Joseph William Still, M.D., M.P.H., *Assistant Professor of Physiology*  
 Hyman Erwin Steinman, M.D., *Lecturer in Physiology*  
 Katherine Virginia Greene, A.M., *Instructor in Physiology*  
 Charles Arthur Toompas, A.M., *Instructor in Physiology*  
 Louis Pat Munan, M.S., *Associate in Physiology*

*Master of Arts or Master of Science in the field of Physiology (Columbia College).*—Prerequisite: the degree of Bachelor of Arts or Bachelor of Science respectively, with a major in Biology, Chemistry, Physics, or Zoology from a University, or the equivalent. The undergraduate work should include the equivalent of Biology 1-2 or Zoology 1-2, and Zoology 41-42; Chemistry 11-12, 21, 151-52; Physics 5, 6, and 7. It is recommended that Biochemistry 221-22 be taken as an elective. A Bachelor's degree which includes the premedical requirements is acceptable for admission to candidacy.

Required: the general requirements are stated on pages 79-80. In addition to the thesis, the thirty hours of required work should include Physiology 204, 205 or 222, 231, 234, 236, 238, 240, and at least three credit hours of research (Physiology 295 or 296). Biochemistry 221-22 is required unless it was included in the undergraduate program.

### 115 *Physiology (3)*

Lectures for nonmedical students covering the fundamentals of physiology in its various subdivisions. Prerequisite: one year of general science or one term of a biological science. Section A: Tues. and Thurs., 8:45 to 10:00 A.M.; section B: Tues. and Thurs., 5:10 to 6:25 P.M.

### 117 *Experimental Physiology (1)*

Laboratory exercises in the fundamentals of physiology, for nonmedical students. Prerequisite or concurrent registration: Physiology 115 or the equivalent. Material fee, \$15. Sat., 9:10 to 12:30 P.M.

### 120 *Physiology of Endocrine Activity (2)*

For nonmedical students. The circulatory, metabolic, reproductive, growth, and other adaptations, immediate and long term, accompanying and affecting endocrine activity. Prerequisite: Physiology 115 or the equivalent. Tues. and Thurs., 6:10 P.M.

### 130 *The Psycho-physiology of Personality (2)*

For nonmedical students. Lectures on the genesis and expression of personality, with emphasis on the physiological approach. Prerequisite: Physiology 115 or the equivalent and general psychology. Tues. and Thurs., 5:10 P.M.

### 150 *Advanced Physiology*

One hundred twenty-five physiological lectures and one hundred twenty-five laboratory hours devoted to the major divisions of the subject. For medical students.

- 201-2 Experimental Method (1-1)** Albritton  
For nonmedical graduate students. Design of controlled experiments in medical or biological investigation; errors in design; criticism and judgment of evidence; and tests of the statistical significance of experimental results. Sat., 9:00 A.M.  
Physiology 201x, same as 201, offered spring term.
- 211-12 Problems in Physiology** Albritton, Leese, and Staff  
(arr.)  
For nonmedical graduate students. Open to undergraduate students with the approval of the Department. Prerequisite: Physiology 115 and 117, or the equivalent. Hours and credits to be arranged.
- 221-22 Physiology Seminar (1-1)** The Staff  
For nonmedical students undertaking graduate work in physiology. Prerequisite: Physiology 115 and 117, or the equivalent. Weekly throughout the year.
- 231 Advanced Physiology of Circulation and Respiration (4)** Albritton, Leese, and Staff  
For nonmedical graduate students. Lectures on blood, heart, circulation, tissue water, respiration, and acid-base balance. Four hours a week, to be arranged.
- 234 Advanced Physiology of Nutrition, Metabolism, and Excretion (2)** Leese, Still  
For nonmedical graduate students. Lectures on nutrition, digestion, metabolism, excretion, and temperature regulation. Two hours a week, to be arranged.
- 236 Advanced Physiology of the Endocrine Glands and Reproduction (1)** Albritton, Still, and Staff  
For nonmedical graduate students. Lectures on ductless glands, hormones, humoral agents, and reproduction. One hour a week, to be arranged.
- 238 Advanced Physiology of the Neuro-Muscular System (2)** Leese  
For nonmedical graduate students. Lectures on sensory reception, central nervous processes, somatic and visceral motor activity, and the behavior of smooth and striped muscle. Two hours a week, to be arranged.
- 240 Advanced Experimental Physiology (3)** The Staff  
For nonmedical graduate students. Laboratory work only. Correlated with the lectures in courses 231-238. Material fee, \$36. Nine hours a week, to be arranged.
- 295-96 Research (arr.)** Albritton, Leese, and Staff  
Material fee, \$12 a credit hour. Hours and credits to be arranged.
- 299-300 Thesis (3-3)** Albritton, Leese

## POLITICAL SCIENCE

- John Albert Tillema, Ph.D., LL.M., S.J.D., *Professor Emeritus of Political Science in Residence*  
 Warren Reed West, Ph.D., *Professor of Political Science*  
 John Withrow Brewer, Ph.D., *Professor of International Law, Executive Officer*  
 Arlin Rex Johnson, Ph.D., *Professor of Public Administration*  
 William Crane Johnstone, Jr., Ph.D., *Professorial Lecturer in Political Science*  
 Karl Ernest Stromsem, Ph.D., *Professorial Lecturer on Public Administration*  
 Fred Latimer Hadsel, Ph.D., *Professorial Lecturer in Political Science*  
 Wolfgang Herbert Kraus, Dr. Jur., S.J.D., *Associate Professor of Political Science*  
 Howard Rowland Ludden, A.M., *Assistant Professor of Political Science*  
 William George Torpey, Ph.D., *Lecturer on Public Administration*  
 Floyd Millard Riddick, Ph.D., *Lecturer in Political Science*  
 Thomas Ewing Cotner, Ph.D., *Lecturer in Political Science*  
 Harvey Porter Hall, A.M., *Lecturer in Political Science*  
 John Samuel Myers, Ph.D., *Lecturer on Public Administration*  
 Frederick Justin Mann, A.M., *Lecturer in Political Science*  
 Charles Bigelow Stauffacher, A.M., *Lecturer on Public Administration*  
 Paul Van Riper, Ph.D., *Lecturer in Political Science*  
 \*Jonathan Dayton Stoddart, A.M., *Instructor in Political Science*

*Bachelor of Arts with a major in Political Science (Columbian College departmental)*—Prerequisite: the Arts and Letters curriculum in the Junior College stated on page 56, including Political Science 9-13. Required: in addition to the general requirements stated on pages 71-76, thirty credit hours from the following groups distributed as follows: twelve hours from Group A; six hours from Group B; six hours from Group A, B, or C; six hours from Group A, B, C, or D.

Group A: Political Science 111, 112, 117-18, 121-22. Group B: Political Science 171, 172, 181-82. Group C: Political Science 104, 120, 124, 141, 143, 151-52, 161-62, 175-76, 191, 194. Group D: Political Science 127, 128, 130, 131-32, 161-62, 175-76, 191, 194.

Students interested in preparing for graduate work in Public Administration will consult the Executive Officer of the Department for modifications of the above requirements.

*Master of Arts in the field of Political Science (Columbian College departmental)*—Prerequisite: a Bachelor of Arts degree with a major in Political Science at the University, or the equivalent. Required: the general requirements as stated on pages 78-80. The thirty hours of required work must be approved in advance by the Adviser.

\* On national service leave.



*Bachelor of Arts and Master of Arts in Government in the field of Foreign Affairs, and Master of Arts in Public Administration with majors in General Administration and in Governmental Fiscal Administration (School of Government).—See pages 158-59, 163-64, 165-66.*

## FIRST GROUP

- 9-10 *Government of the United States\** (3-3) The Staff  
Morning and evening sections. (Also offered 1952 summer term.)  
Political Science 9x, same as 9, offered spring term. Morning.  
Political Science 10x, same as 10, offered fall term. Morning.

## SECOND GROUP \*

- 104 *State and Local Government* (3) Ludden  
Not open to students who have credit for former Political Science 115.  
1953-54 and alternate years.
- 111 *The Governments of Europe: England, France, and Switzerland* (3) Kraus  
Morning.
- 112 *The Governments of Europe: Soviet Union, Germany, and Italy* (3) Kraus  
Morning. (Also offered in the 1952 summer term.)
- 117-18 *Political Theory* (3-3) Kraus  
Evening. (Also offered 1952 summer term—Political Science 118 (3).)
- 120 *Foundations of American Democracy: an Introduction to Political Thought in the United States* (3) Brewer  
Morning.
- 121-22 *The Constitution of the United States* (3-3) West  
Evening. (Also offered 1952 summer term—Political Science 121 (3).)
- 124 *Legislative Organization* (3) Riddick  
Morning.
- 127 *Commercial Law: Contracts, Agency, and Bailments* (3) Tillema  
Morning and evening sections. (Also offered 1952 summer term.)
- 128 *Commercial Law: Negotiable Instruments, Property, Sales, Mortgages* (3) Tillema  
Morning and evening sections. (Also offered 1952 summer term.)
- 129 *Law in Relation to the Form of Business Units* (3) Tillema  
(Not offered in 1952-53.)
- 130 *Maritime Law* (3) Tillema  
1953-54 and alternate years.

\* Political Science 9-10 is prerequisite to all second-group courses.

- 141 *The Development of Legal Institutions* (3)  
Morning. Brewer
- 145 *Political Parties and Politics* (3)  
Not open to students who have credit for former Political Science 116.  
Morning. (Also offered 1952 summer term.) Ludden
- 146 *Political Pressures and Public Reactions* (3)  
1952-53 and alternate years, morning. Ludden
- 151-52 *Public Administration* (3-3)  
Evening. Van Riper
- 161-62 *Administrative Law* (3-3)  
1953-54 and alternate years. Tillem
- 171 *International Politics* (3)  
Morning and evening sections. (Also offered 1952 summer term.) Ludden
- 172 *International Organization: the United Nations* (3)  
Morning and evening sections. (Also offered 1952 summer term.) Ludden
- 175 *International Politics in the Western Hemisphere* (3)  
Evening. Davis
- 176 *Current Trends in Latin American Politics and Government* (3)  
Evening. Davis
- 181-82 *International Law* (3-3)  
Morning and evening sections. (Also offered 1952 summer term.) Brewer
- 191 *Government and Politics in the Middle East* (3)  
Evening. Hall
- 194 *Far Eastern Politics: Contemporary International Relations in the Pacific Area* (3)  
Evening. Moore

## THIRD GROUP

- 209-10 *Seminar: the Legislative Process* (3-3)  
Evening. West
- 212 *Seminar: Comparative Government* (3)  
Evening. Kraus
- 213 *Reading Course in Comparative Government* (3)  
Evening. (Also offered 1952 summer term.) Kraus

- 217 *Seminar: Topics in Political Theory* (3) Kraus  
Evening.
- 220 *Reading Course in Political Theory* (3) Kraus  
Evening.
- \*226 *Problems of Governmental Reorganization* (3) Torpey  
Summer term 1952.
- \*239 *Personnel Administration* (3) Torpey  
Evening.
- \*240 *Problems in Personnel Management* (3) Torpey  
Evening.
- \*252 *Budgetary and Financial Administration* (3) Myers  
Evening.
- \*253 *Staff Functions in Government Administration* (3) Myers  
Evening.
- \*255 *Principles and Problems of Administration* (3) Stauffacher  
Evening.
- \*260 *Administration of Major Governmental Programs* (3) Stauffacher  
Evening.
- \*261-62 *Reading and Conference Course in Public Administration* (3-3) Torpey  
Evening.
- \*263-64 *Analysis of Administrative Procedures* (3-3) Stromsem and Staff  
Open only to members of the Internship Program in the School of Government. Time to be arranged.
- \*265-66 *Workshop in Public Administration* (3-3) Johnson  
Evening. (Also offered 1952 summer term.)
- 271-72 *Problems in International Politics and Organization* (3-3) Hadsel  
Evening. (Also offered 1952 summer term—Political Science 272 (3).)
- \*273 *Seminar: International Administration* (3) Hadsel  
1953-54 and alternate years.
- \*274 *Seminar: Objectives and Methods of Foreign Policy* (3) Hadsel  
Evening.

\* Primarily for majors in the School of Government.



- 277-78 *Seminar: Latin American Politics and Government* (3-3) Cotner  
Evening.
- \*279-80 *Reading Course in International Affairs* (3-3) Hadsel  
Political Science 279, time to be arranged. (Political Science 280 not  
offered in 1952-53.)
- 281-82 *Seminar: International Law and Relations* Brewer  
(3-3)  
Afternoon. (Also offered 1952 summer term—Political Science 281  
(3).)
- 293-94 *Seminar: International Politics and Government in the Pacific Area* (3-3) Johnstone  
Evening.
- 295 *Reading Course in Far Eastern Politics and Governments* (3) Johnstone  
(Not offered in 1952-53.)
- 299-300 *Thesis* (3-3) The Staff

• Primarily for majors in the School of Government.

## PSYCHIATRY

Winfred Overholser, A.B., M.D., Sc.D., *Professor of Psychiatry, Executive Officer*

Roscoe Willis Hall, Ph.B., M.D., *Clinical Professor of Psychiatry*

Solomon Katzenelbogen, M.D., *Clinical Professor of Psychiatry*

Addison McGuire Duval, M.D., *Clinical Professor of Psychiatry*

Sidney Berman, B.S., M.D., *Assistant Clinical Professor of Psychiatry*

Morris Kleinerman, Ch.D., M.B., *Assistant Clinical Professor of Psychiatry*

Leon Yochelson, A.B., M.D., *Assistant Clinical Professor of Psychiatry*

Henry Prather Laughlin, B.S., M.D., *Assistant Clinical Professor of Psychiatry*

Marshall de Graffenried Ruffin, B.S., M.D., *Assistant Clinical Professor of Psychiatry*

Harriet Elizabeth Twombly, A.B., M.D., *Associate in Psychiatry*

Norman Taub, B.S., M.D., *Associate in Psychiatry*

William Green Cushard, M.D., *Associate in Psychiatry*

Harold Corson, M.D., *Associate in Psychiatry*

David Eden, A.B., M.D., *Clinical Instructor in Psychiatry*

Clarence Bunge, B.S., M.D., *Clinical Instructor in Psychiatry*

Robert Milton Greenberg, A.B., M.D., *Clinical Instructor in Psychiatry*

### 165 *Dynamics of Personality Development* Berman

An orientation course in the anatomical, physiological, and psychological growth and development of personality. Consideration of characteristics of structure, function, and development of the psyche leading to normal behavior as a basis for the study of the pathological. Evaluation of interpersonal relationships. One hour a week.

### 178 *Psychopathology* Hall

Manifestations and understanding of various mental mechanisms and abnormal reaction-types, preceded by history of development of psychopathology and illustrated with case material. One hour a week.

### 266 *Psychiatry* Overholser

History, etiology, symptoms, course, and treatment of the major psychoses with emphasis on the dynamics involving the person as a whole. One hour a week.

### 268 *Demonstration Clinics* Twombly, Cushard

Presentation of clinical cases of major mental illnesses and primary behavior disturbances, correlating with Psychiatry 266. Each student examines patients under supervision. Three hours a week. St. Elizabeths Hospital.

271 *Psychosomatic Aspects of General Medicine*

Katznelbogen

Somatic disorders of psychogenic origin. The role of personality reactions in functional and organic disorders. One hour a week.

324 *Psychoneurosis*

Laughlin

Etiology, psychopathology, clinical aspects, and treatment of various types of psychoneuroses. One hour a week for sixteen weeks. Medical Conference Room, Gallinger Hospital.

431-32 *Clinical Clerkship*Duval, Kleinerman, Yochelson,  
Ruffin, Taub, Corson, Pallister,  
Eden, Bunge, Greenberg

Supervised examination, diagnosis, and treatment of ambulatory borderline cases in University Hospital and hospitalized cases in St. Elizabeths Hospital. Conferences for discussion of cases. Clinical application of psychiatric principles to general medical practice stressed. Three weeks divided service. University Hospital Inpatient and Outpatient Psychiatric clinics and St. Elizabeths Hospital.



## PSYCHOLOGY

Mitchell Dreese, Ph.D., *Professor of Educational Psychology*  
 Thelma Hunt, Ph.D., M.D., *Professor of Psychology, Executive Officer*  
 Henry Furness Hubbard, Ph.D., *Adjunct Professor of Psychology*  
 Clarence Daniel Leatherman, Ph.D., *Professorial Lecturer in Psychology*  
 Curtis Edward Tuthill, Ph.D., *Associate Professor of Psychology*  
 Willard Edmund Caldwell, Ph.D., *Assistant Professor of Psychology*  
 James Norman Mosél, A.M., *Assistant Professor of Psychology*  
 Ewing Lakin Phillips, Ph.D., *Assistant Professor of Psychology*  
 Bernard Hayman Fox, Ph.D., *Assistant Professor of Psychology*  
 Margaret Ives, Ph.D., *Lecturer in Psychology*  
 Clyde Lindley, A.M., *Lecturer in Psychology*  
 Don Carlos Faith, A.M., *Lecturer in Psychology*

*Bachelor of Arts with a major in Psychology (Columbian College—Departmental).*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56, including Psychology 1 and 2 or 22. The general requirements for the degree are stated on pages 71-76. The sixty required credit hours must include twenty-four hours in Psychology above 2 or 22, including Psychology 29 or 151, 98, 131, 191, and 196; Statistics 53; and Physiology 115 or Psychology 118.

*Master of Arts or Master of Science in the field of Psychology (Columbian College).*—Prerequisite: the degree of Bachelor of Arts with a major in Psychology at this University, or the equivalent. Required: the general requirements for the degree are stated on pages 78-80. Of the twenty-four required credit hours (exclusive of the thesis), a minimum of eighteen must be in third-group courses; a minimum of twelve must be in psychology, including Psychology 201 and 202; twelve may be in related fields approved by the Department.

Master's programs are available in the following fields of concentration: (1) tests and measurements, (2) counseling and guidance, (3) clinical-abnormal, (4) social, (5) personnel, (6) comparative-physiological, and (7) theoretical-systematic-experimental. For detailed requirements consult the Executive Officer of the Department.

*Bachelor of Arts in Government with a major in Business Administration (Personnel Management option) or Educational and Psychological Statistics (School of Government).*—See pages 159, 160-61.

*Master of Arts in Personnel Administration or Master of Arts in Government with a specialty in Vocational Counseling (School of Government).*—See pages 166, 164-65.

*Master of Arts in Education in the fields of Employee Training and of Guidance (School of Education).*—Prerequisite: a Bachelor's degree from an accredited institution and two years of successful teaching experience. The requirements for the degree are stated on pages 148-50.

## FIRST GROUP

1 *General Psychology*\* (3)

The fundamental principles underlying human behavior. Morning and evening sections. (Also offered 1952 summer term.)  
Psychology 1x, same as 1, offered spring term. Morning and evening sections.

2 *Applied Psychology* (3)

The applications of psychology in business, industry, medicine, guidance, education, and social problems. Morning and evening sections. (Also offered 1952 summer term.)  
Psychology 2x, same as 2, offered fall term. Morning and evening sections.

22 *Introduction to Educational Psychology* (3)

Consideration of individual and group differences, adjustments, and the psychology of learning in relation to education and training. Morning. (Also offered 1952 summer term.)  
Psychology 22x, same as 22, offered fall term. Evening.

29 *Child Psychology* (3)

A genetic approach to the study of the child. Special emphasis placed on the socialization process, learning, and the child's view of the world. Evening. (Also offered 1952 summer term.)  
Psychology 29x, same as 29, offered spring term. Morning.

98 *Abnormal Psychology* (3)

The causes, diagnosis, treatment, and prevention of the various types of maladjustments and mental disorders. Prerequisite: 6 credits in psychology, or 3 credits in psychology and 6 credits in a biological science. Morning. (Also offered 1952 summer term.)  
Psychology 98x, same as 98, offered fall term. Morning and evening sections.

## SECOND GROUP ‡

118 *Physiological Psychology* (3)

Structure, function, and phylogeny of receptors, nervous system, effectors as mediators of behavior, including drives, learning, and conditioning. Afternoon.

121 *Educational Psychology* (3)

Advanced course in educational psychology. Open each term to a limited number of students. Individual study plan to be arranged. (Also offered 1952 summer term.)

129 *Introduction to Counseling and Guidance* (3)

A survey of the basic principles, techniques, and procedures as applied to vocational, educational, and personal counseling. Evening.

\* Psychology 1 is prerequisite to all other courses in Psychology.

‡ Six credits in first group courses are prerequisite to all second group courses.

- 131 *Psychological Tests* (3) Hunt  
A survey of psychological tests and their more common uses in business, industry, government, law, medicine, and education. Material fee, \$5. Morning. (Also offered 1952 summer term.)  
Psychology 131x, same as 131, offered spring term. Evening.
- 144 *Personnel Psychology* (3) Mosél  
The applications of psychology to personnel work in education, business, industry, and government. Afternoon. (Also offered 1952 summer term.)  
Psychology 144x, same as 144, offered fall term. Evening.
- 151 *Social Psychology* (3) Tuthill  
The social foundations of attitudes and behavior. Individual adjustment to group situations, such as the family, school, fraternity, and occupation. The psychological bases of race prejudice, nationalism, and war. Morning. (Also offered 1952 summer term.)  
Psychology 151x, same as 151, offered spring term. Evening.
- 156 *Psychology of Propaganda and Public Opinion* (3) Tuthill  
The psychology of opinion formation, the measurement of opinion, the social determinants of attitudes, the psychological processes in propaganda, the bases of receptivity to propaganda, psychological warfare. Evening.
- 161 *Comparative Psychology* (3) Caldwell  
A survey of psychological processes in infrahuman organisms, with special emphasis on the evolution of animal behavior from the lowest forms to man. Accompanied by laboratory work. Material fee, \$9. Afternoon.
- 171 *Psychology of Personality* (3) Caldwell  
Contemporary approaches to the study of personality. Prerequisite: 12 credits in psychology, including Abnormal Psychology. Afternoon and evening sections. (Also offered 1952 summer term.)
- 191 *Experimental Psychology* (3) Fox  
The application of experimental methods to various psychological problems. Prerequisite: 12 credits in psychology. Material fee, \$9. Afternoon.  
Psychology 191x, same as 191, offered spring term. Afternoon and evening sections.
- 192 *Problems in Experimental Psychology* (3) Caldwell, Fox  
Opportunity for work on individual experimental projects. Prerequisite: Psychology 191. Open each term to a small number of students by permission of the instructor. Time to be arranged.
- 193-94 *Readings in Psychology* (3-3) The Staff  
Supervised readings on specific topics in psychology, with conferences; for undergraduate majors. Open only to seniors with 18 or more credits in psychology with a quality point index of 3.00 or



higher. Special permission of staff member under whom course is to be taken is necessary. Time to be arranged. (Also offered 1952 summer term.)

196 *History and Systems of Psychology* (3)

A survey of the contemporary schools of psychology. 12 credits in psychology. Morning and evening sections.

Caldwell  
Prerequisite

THIRD GROUP \*

201 *Seminar: Advanced General Psychology* (3)

General review of the field for graduate students with an intensive study of selected problems. Required in all graduate programs. Afternoon.

Psychology 201x, same as 201, offered spring term. Evening.

202 *Psychological Research Methods and Procedures* (3)

Required of all Master of Arts candidates in Psychology. sites. Experimental Psychology and Statistics. Afternoon.

Psychology 202x, same as 202, offered fall term. Evening.

204 *Contemporary Developments in Psychology* (3)

Certain modern developments are treated, e.g., action research, Eysenck's personality investigations, various new theories, P and C techniques, etc.

Summer term 1952.

205-6 *Field Work in Psychology* (3-3)

Supervised field work in agencies providing psychological services. Admission by permission of the Executive Officer of the Department. Time to be arranged. (Also offered 1952 summer term.)

207-8 *Readings in Psychology for Graduate Students* (3-3)

Supervised readings with conferences on specified topics in psychology. Time to be arranged. (Also offered 1952 summer term.)

209x *Seminar: Psychology of Motivation* (3)

A consideration of various theoretical approaches to the psychology of motivation and systematic concepts and experimental findings deriving from each approach. Afternoon.

212 *Seminar: Personality Evaluation by Projective Techniques* (3)

Evening.

213 *Seminar: Clinical Psychology* (3)

An intensive study of some problem in the field of clinical psychology. Evening.

\* Open only to graduate students with 18 or more credits in psychology, except by permission of Instructor and Executive Officer of the Department.

- 217 **Seminar: Experimental-Clinical Psychology (3)** Phillips  
A critical review of the experimental and theoretical works of Pavlov, Anderson and Parmenter, Gantt, Masserman, and the Yale group on laboratory studies of clinical phenomena. Prerequisites: Experimental Psychology, Statistics, and nine credit hours in courses related to clinical psychology. Saturday morning.
- 220 **Seminar: Abnormal Psychology (3)** Hunt  
An intensive study of a selected problem in the field of abnormal psychology. Afternoon.
- 223 **Seminar: Learning (3)** Tuthill  
Covers theories of learning. Afternoon.
- 225 **Seminar: Mental Hygiene (3)** Phillips  
A survey of the recent literature in social psychology and anthropology as they relate to the impact of society on the mental hygiene of the individual. Individual mental health problems are viewed in terms of the social context in which they occur and are treated. Saturday morning. 1953-54 and alternate years.  
Summer term 1952.
- 226 **Seminar: Clinical Psychology of Childhood (3)** Phillips  
A survey of children's behavior and personality disorders. Special emphasis is placed on therapy and the techniques of interviewing and testing children. Saturday morning.
- 227x **Seminar: Counseling and Guidance (3)** Dreese  
Recent developments and current problems in vocational, educational, and personal guidance in various types of agencies with particular reference to education. Prerequisite: educational or psychological measurements and Psychology 129 or the equivalent. Evening.
- 228 **Seminar: Techniques of Counseling (3)** Dreese  
Specific types of vocational, educational, and personal counseling problems approached through the case method. Prerequisite: recent previous course in counseling and guidance and familiarity with individual analysis methods. Evening. (Also offered 1952 summer term.)
- 229x **Seminar: Occupational and Educational Information (3)**  
Designed to acquaint vocational and educational counselors with the basic occupational and educational information necessary in counseling. Sources of data and techniques of collecting, analyzing, and disseminating for purposes of guidance. Evening.
- 231 **Test Construction (3)** Hunt  
The principles underlying test construction; statistical techniques in the construction, evaluation, and standardization of psychological, educational, and vocational tests. Prerequisite: a course in tests and measurements and a course in statistics. Evening.
- 232 **Research: Test Construction (3)** Hunt  
Individual projects in construction and evaluation of psychological, educational, or vocational tests. Prerequisite: Psychology 231, open

- each term on individual study plan to a small number of students by permission of instructor. Time to be arranged.
- 233 *Individual Psychological Testing* (3) Phillips  
 Instruction and practice in giving of the Binet Test and the Wechsler Bellevue Test. Emphasis is placed on testing children and adolescents. Prerequisite: an elementary course in tests and measurements. Material fee, \$5. Afternoon.
- Psychology 233x, same as 233, offered spring term. Afternoon.
- 234 *Seminar: Test Theory* (3) \_\_\_\_\_  
 Evening.
- 236x *Seminar: Analysis of the Individual for Purposes of Counseling* (3) \_\_\_\_\_  
 A detailed study of individual analysis techniques with practice in handling such methods. Prerequisite: an introductory course in educational or psychological measurements. Evening.
- 242x *Seminar: Personnel Psychology* (3) Hubbard  
 A study of the applications of psychology to various personnel procedures, for those interested in either government or industrial personnel work. Prerequisite: Psychology 144 or the equivalent. Evening.
- 244 *Seminar: Job Analysis and Evaluation* (3) Leatherman  
 Evening.
- 246x *Seminar: Personnel Measurement Techniques* (3) Mason  
 Detailed consideration of interviews, personal data analysis, tests, ratings and questionnaires in evaluating employability, job proficiency and worker morale. Evening.
- 248 *Seminar: Psychological Market Research* (3) Mason  
 Techniques and results in the analysis of consumer behavior. The measurement of advertising effects, consumer surveys, acceptance testing, product design, forecasting audience response to media. Evening.
- 251 *Seminar: Advanced Social Psychology* (3) Tutbill  
 Current research and theory in social psychology; group dynamics; ego-involvements, action research, and social interaction theory. Afternoon.
- 254 *Seminar: Group Dynamics* (3) Tutbill  
 The experimental study of small groups; autocratic and democratic group climates, interaction process analysis; Lewin's field-theory approach to individual and group processes.  
 Summer term 1952.
- 255x *Seminar: Techniques of Opinion and Attitude Measurement* (3) Tutbill  
 Methods of attitude measurement (interviews, questionnaires, scales, etc.) as currently used by private and governmental investigators. The place of attitude studies in schools, industry, government, etc. Evening.



- 272x *Seminar: Theories of Personality* (3) Caldwell  
A survey of the various theories of personality, with emphasis upon theoretical problems and methodology in the field of personality study. Evening. (Also offered 1952 summer term.)
- 295-96 *Research in Psychology* (arr.) The Staff  
Individual research by student, carried out under supervision of staff member. Time and credits to be arranged. (Also offered 1952 summer term.)
- 299-300 *Thesis* (3-3) The Staff  
Time to be arranged. (Also offered 1952 summer term.)

## RADIOLOGY

William Woodrow Stanbro, M.D., *Professor of Radiology, Executive Officer*  
 Solomon Rodney Bersack, M.D., *Assistant Clinical Professor of Radiology*  
 Ludwig Carl Kroutil, A.B., M.D., *Assistant Clinical Professor of Radiology*  
 Charlotte Patricia Donlan, A.B., M.D., *Assistant Clinical Professor of Radiology*  
 Elmer Richard King, A.B., M.D., *Associate in Radiology*  
 George Tievsky, M.D., *Clinical Instructor in Radiology*  
 Uthai Vincent Wilcox II, M.D., *Clinical Instructor in Radiology*  
 Alvin Charles Wyman, A.B., M.D., *Clinical Instructor in Radiology*

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|--------|--|-----------|
| 213    | <i>Basic Radiology</i><br>Orientation lectures in X-ray physics.   | The Staff |
| 341-42 | <i>Radiological Diagnosis</i><br>Lectures in conjunction with the course in Physical Diagnosis.                              | The Staff |
| 358    | <i>Advanced Radiological Diagnosis</i><br>Lectures and discussions.  | The Staff |
| 449    | <i>Clinical Studies</i><br>Students assigned in rotation on a full-time basis for a specific period to the X-ray Department. | The Staff |
| 478    | <i>Research</i><br>Hours to be arranged.   | The Staff |

## RELIGION

Lawrence Daniel Folkemer, Ph.D., Associate Professor of Religion,  
Executive Officer

*Bachelor of Arts with a major in Religion (Columbian College—Departmental).*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56. Required: the general requirements as stated on pages 71-76, including a minimum of eighteen credit hours in religion beyond first-group courses.

### FIRST GROUP

- 9 *The Old Testament* (3) Folkemer  
A historical and literary approach to the study of the books of the Old Testament with special consideration given to the development of religious ideas, institutions, and outstanding personalities. Morning.
- 10 *The New Testament* (3) Folkemer  
A study of the literature of the New Testament from the standpoint of occasion, purpose, dominant ideas, and permanent values. Special consideration given to life in the primitive Christian Church. Morning.
- 59-60 *History of Religions* (3-3) Folkemer  
Fall term: primitive and eastern religions—Egyptian religion, Confucianism, Taoism, Buddhism and sects, Hinduism, and Shintoism—considering environment, personalities, religious thought, cultus, ethics, and modern trends. Spring term: Judaism, Christianity, and Islam: analysis of early development, thought, life, institutions, and expansion. Recent issues and trends examined. Morning. (Also offered 1952 summer term—Religion 59 (3).)

### SECOND GROUP

- 102 *The Prophets, Their Times and Their Message* (3)  
The development of prophetism in the Old Testament; cultural, economic, psychological, and religious factors in the movement; elements of lasting value in the prophetic teaching. A few of the prophets will be selected for particular study. (Not offered in 1952-53.)
- 103 *The Life and Thought of Jesus* (3) Folkemer  
A detailed study of the life and teachings of Jesus on the basis of a comparative analysis of the Gospel records; the significance of the message of Jesus for our own times. Morning.  
Summer term 1952.
- 104 *The Life and Thought of the Apostle Paul* (3) Folkemer  
Greek and Hebrew backgrounds of early Christianity, the Roman world of the first century, religious and social conditions affecting the spread of Christianity, the life and journeys of Paul, Paul's teaching



- and presentation of the Christian faith, the place of the Pauline epistles in the New Testament. Morning.
- 143 *The Basic Problems of Religion* (3) Folkemer  
A study of religious truth and experience, the existence and nature of God, the predicament of modern man, the problem of evil and suffering, eternal life, science and religion, the meaning of worship, religious views of history. Evening.
- 151 *History of the Christian Church to the Reformation* (3) Folkemer  
A detailed study of the Christian Church from Apostolic days to the Reformation; relationship between church and state, doctrines, worship, expansion, rise of papacy, monastic movement, and pre-Reformation dissent. (Not offered in 1952-53.)
- 152 *History of the Christian Church Since the Reformation* (3) Folkemer  
The origin and development of Protestantism; the Roman Catholic revival; developments among the Eastern churches; doctrines, worship, expansion, church and state, and relation to modern thought and life on the Continent and in Great Britain. (Not offered in 1952-53.)
- 172 *Religion in American Culture* (3) Folkemer  
Growth of religious bodies and institutions in American culture; the heritage of religious freedom and diversity, religion and literature, revivalism and education, science and religious thought, divisions and cooperative movements in religion. Evening.
- 185 *Classics of Religious Literature* (3) Folkemer  
A careful study of some of the world's treasures of religious literature from the standpoint of religious message, literary form, and personal influence. Readings from *Bhagavadgita*; *The Bible*; *The Koran*; *Confessions of St. Augustine*; *Imitation of Christ*, à Kempis; *Praise of a Pilgrim*, Erasmus; *Pilgrim's Progress*, Bunyan; *Christian Liberty*, Luther. Morning. (Not offered in 1952-53.)

## ROMANCE LANGUAGES AND LITERATURES

Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*

\*Merle Irving Protzman, Ph.D., *Professor of Romance Languages*

Louis Clark Keating, Ph.D., *Professor of Romance Languages, Executive Officer*

Alan Thomas Deibert, A.M., *Professor of Romance Languages*

Irene Cornwell, Ph.D., *Associate Professor of French*

Antonio Alonso, A.M., *Associate Professor of Spanish*

Rafael Supervía, Doctor en Derecho, *Assistant Professor of Spanish*

James Willis Robb, A.M., *Assistant Professor of Romance Languages*

William Graham Clubb, A.M., *Assistant Professor of French*

Alberto Vázquez, Ph.D., *Lecturer on Spanish American Literature*

Roberto Daniel Meléndez, A.B., *Associate in Spanish*

*Bachelor of Arts with majors in (1) French Literature, (2) Spanish American Literature, and (3) Spanish Literature (Columbian College—Field-of-Study).—Prerequisite: the Arts and Letters curriculum in the Junior College. Required: the general requirements as stated on pages 71-76 and the grade "pass" on the major examination at the end of the senior year. The coordinated field of knowledge upon which the student will be examined includes the political, social, and cultural backgrounds of the literature studied; the writers; and their works. A reasonable proficiency in the spoken language is required. Majors in Romance Languages are strongly advised to study Latin, a knowledge of which is required for graduate work in most institutions. The Department of Romance Languages provides a proseminar in each of the major fields intended to assist the student in his preparation for the major examination.*

*Master of Arts in (1) French Literature, (2) Spanish American Literature, and (3) Spanish Literature (Columbian College).—Prerequisite: the degree of Bachelor of Arts in the appropriate field from this University, or the equivalent. Required: the general requirements as stated on pages 78-80. The thirty hours of required work must include a thesis, for which six hours credit are allotted. The remainder of the program is arranged in consultation with the student's major adviser.*

*Bachelor of Arts in Education with teaching fields in French and in Spanish (School of Education).—Prerequisite: the Education curriculum, page 58. Required: the French option, page 144 or the Spanish option, pages 146-47; the professional courses listed on pages 147-48.*

### FRENCH

#### FIRST GROUP

#### †1-2 First-year French (3-3)

For beginners. Grammar, composition, drill in pronunciation, translation of modern French prose. Morning, afternoon, and evening sections. (Also offered 1952 summer term.)

The Staff

\* On sabbatical leave 1952-53.

French 1x, same as 1, offered spring term. Morning and evening sections.

French 2x, same as 2, offered fall term. Morning, afternoon, and evening sections.

1-2x **First-year French (accelerated)** (6) The Staff

Same as French 1-2, full year given in fall term on an accelerated basis. Morning.

†3-4 **Second-year French \*** (3-3) The Staff

Advanced grammar and composition, reading in modern French prose, oral practice, introduction to French civilization. Prerequisite: French 1-2 or two years of high school French. Morning, afternoon, and evening sections. (Also offered 1952 summer term.)

French 3x, same as 3, offered spring term. Morning and evening sections.

French 4x, same as 4, offered fall term. Morning and evening sections.

3x-4 **Second-year French (accelerated)\*** (6) The Staff

Same as French 3-4, full year given in the spring term on an accelerated basis. Morning.

9-10 **French Conversation and Composition** (3-3) The Staff

Morning, afternoon, and evening sections. (Also offered 1952 summer term.)

51-52 **Survey of French Literature and Civilization\*** Deibert

(3-3)  
Evening.

**SECOND GROUP \***

107 **French Readings for Non-major Students†** Clubb

Designed primarily for graduate students preparing for reading examinations. Undergraduates are admitted with the permission of the instructor. No academic credit for graduate students. Three hours credit for undergraduates. Evening.

119-20 **French Literature of the Sixteenth Century** Keat

(3-3)  
Prose, poetry, drama, and memoirs of the French Renaissance: Rabelais, Montaigne, Marot, La Pléiade, etc. Class analysis of texts; collateral reading. Recommended: History 120. 1953-54 and alternate years.

121-22 **French Literature of the Seventeenth Century** Protzman

(3-3)  
History, philosophy, criticism, memoirs, letters, eloquence, drama, fiction, poetry. Class analysis of texts; collateral reading. 1953-54 and alternate years, evening.

\* French 1-4 is required and French 51-52 is recommended as prerequisites to all second group courses in French.

† Tuition fee, \$49.



- 123-24 *French Literature of the Eighteenth Century* (3-3) Deibert

History; philosophy, criticism, letters, drama, fiction, poetry, the "salons", the idea of progress, the idea of science. Class analysis of texts, collateral reading, lectures on literature and history. 1953-54 and alternate years.

- 125-26 *French Literature of the Nineteenth Century* Keating

(3-3)  
Romanticism and realism; fiction, poetry, drama, criticism. Class analysis of texts, collateral reading, lectures on literature and history. 1952-53 and alternate years, morning.

- 127-28 *French Literature of the Twentieth Century* Keating

(3-3)  
Fiction, poetry, drama, criticism. Class analysis of texts, collateral reading, lectures on literature and history. 1953-54 and alternate years.

- 199-200 *Proseminar: Readings for the Major in French Literature* (3-3) Protzman  
Conferences and group discussions. Afternoon.

### THIRD GROUP

- 227-28 *Seminar in Modern French Literature* (3-3) Cornwell  
Prerequisite: a second-group course in French literature. 1952-53 and alternate years, afternoon.

- 229-30 *Seminar in Classical French Literature* (3-3) Protzman  
Prerequisite: a second-group course in French literature. 1953-54 and alternate years, afternoon.

- †249-50 *Old French\** (3-3) Doyle  
Phonology and morphology of Old French, with an outline of its development through Vulgar Latin; survey of French literature to the end of the thirteenth century. Prerequisite: a second-group course in French literature; an elementary knowledge of Latin. Time to be arranged.

- †251-52 *Middle French\** (3-3) Doyle  
French literature of the fourteenth and fifteenth centuries. Class analysis of texts; collateral reading. Prerequisite: a second-group course in French literature. Knowledge of Old French desirable. Time to be arranged.

- 299-300 *Thesis* (3-3)

The Staff

\* Only one of the following courses: French 249-50, French 251-52, and Spanish 249-50 will be given in 1952-53, depending on demand.

## PORTUGUESE

## FIRST GROUP

†1-2 *First-Year Portuguese* (3-3)

For beginners. Grammar, composition, drill in pronunciation, translation of modern Portuguese prose. (Not offered in 1952-53.)

†3-4 *Second-year Portuguese* (3-3)

Advanced grammar and composition, reading of modern Portuguese prose, oral practice, introduction to Portuguese and Brazilian civilization. Prerequisite: Portuguese 1-2 or the equivalent. (Not offered in 1952-53.)

## SECOND GROUP

127-28 *Portuguese and Brazilian Literature* (2-2)

Evolution of the Portuguese language; outline of the literature of Portugal (fall term) and Brazil (spring term). Lectures, reading, written reports. Conducted in Portuguese. Prerequisite: Portuguese 3-4 or the equivalent. (Not offered in 1952-53.)

## SPANISH

## FIRST GROUP

†1-2 *First-year Spanish* (3-3)

For beginners. Grammar, composition, drill in pronunciation, translation of modern Spanish prose. Morning, afternoon, and evening sections. (Also offered 1952 summer term.)

Spanish 1x, same as 1, offered spring term. Morning and evening sections.

Spanish 2x, same as 2, offered fall term. Morning, afternoon, and evening sections.

1-2x *First-year Spanish* (accelerated) (6)

Same as Spanish 1-2, full year given in fall term on an accelerated basis. Morning.

†3-4 *Second-year Spanish*\* (3-3)

Advanced grammar and composition, reading of modern Spanish prose, oral practice, introduction to Latin American civilization. Prerequisite: Spanish 1-2 or two years of high school Spanish. Morning and evening sections. (Also offered 1952 summer term.)

Spanish 3x, same as 3, offered spring term. Morning and evening sections.

Spanish 4x, same as 4, offered fall term. Morning and evening sections.

3x-4 *Second-year Spanish* (accelerated)\* (6)

Same as Spanish 3-4, full year given in spring term on an accelerated basis. Morning.

9-10 *Spanish Conversation and Composition* (3-3)

Morning and evening sections. (Also offered 1952 summer term.)

\* Spanish 1-2 is required and Spanish 31-32 is recommended as prerequisite to all second group courses in Spanish.

- 51-52 *Survey of Spanish Literature and Civilization\** (3-3) Supervía

The social, artistic, and cultural background of Spanish civilization. Lectures, recitations, and informal discussion. Evening.

## SECOND GROUP \*

- 121-22 *Spanish Literature of the Golden Age* (3-3) Doyle  
Cervantes, Lope de Vega, Calderón; the classic drama, fiction, the ballad, lyric poetry. Class analysis of texts, collateral reading, lectures on literature and history. 1952-53 and alternate years, morning.

- †123-24 *Cervantes* (3-3) Doyle  
Life and works of Cervantes. The Quixote, the Novelas Ejemplares, and other works. 1953-54 and alternate years, morning.

- 125-26 *Modern Spanish Literature* (3-3) Alonso  
Prose and poetry of the eighteenth and nineteenth centuries. Class analysis of texts, collateral reading, lectures on literature and history. 1952-53 and alternate years, evening. 1953-54 and alternate years, morning.

- 127-28 *Contemporary Spanish Literature* (3-3) Supervía  
Prose and poetry of the latter part of the nineteenth and of the twentieth centuries. Class analysis of texts, collateral reading, lectures on literature and history. 1953-54 and alternate years, morning.

- 153-54 *The Modernista Movement in Spanish America* (3-3) Vázquez  
A study of the background, trends, and personalities of this movement. (Not offered in 1952-53)

- 155-56 *Spanish American Literature to 1880* (3-3) Vázquez  
The literature of Spanish America from the colonial period to the latter part of the nineteenth century. Lectures, collateral reading, reports, and class analysis of important works. 1952-53 and alternate years, evening.

- 157-58 *Spanish American Literature Since 1880* (3-3) Vázquez  
The literature of Spanish America from 1880 to the contemporary period. Lectures, collateral reading, reports, and class analysis of important works. 1953-54 and alternate years, evening.

- 197-98 *Proseminar: Readings for the Major in Spanish American Literature* (3-3) Vázquez  
Conferences and group discussions. Time to be arranged.

- 199-200 *Proseminar: Readings for the Major in Spanish Literature* (3-3) Alonso  
Conferences and group discussions. Time to be arranged.

\* Spanish 3-4 is required and Spanish 51-52 is recommended as prerequisite to all second-group courses in Spanish.



## THIRD GROUP

- 225-26 *Seminar in Spanish Literature* (3-3)  
Prerequisite: a second-group course in Spanish literature.  
and alternate years. Time to be arranged.

- 227-28 *Seminar in Spanish American Literature*  
(3-3)  
Prerequisite: a second-group course in Spanish American literature.  
(Not offered in 1952-53.)

- †249-50 *Old Spanish\** (3-3)  
Literature and philology: *Poema del Cid*, *Libro de Buen Amor*,  
*Lucanor*, etc.; Menéndez Pidal's *Manual elemental de gramática  
histórica española* and Ford's *Old Spanish Readings*. Prerequisite:  
a second-group course in Spanish literature; an elementary  
edge of Latin. Time to be arranged.

- 299-300 *Thesis* (3-3)

\* Only one of the following courses: French 249-50, French 251-52, and Spanish 249-50  
be given in 1952-53, depending on the demand.

## SECRETARIAL STUDIES

Mildred Hollander Shott, A.M., *Assistant Professor of Secretarial Studies, Executive Officer*  
 Mary Winifred Cox, A.M., *Associate in Secretarial Studies*

*Associate in Arts (Junior College—two-year vocational curriculum in Secretarial Studies).*—For curriculum, see page 61.

*Bachelor of Arts in Education with a teaching field in Business Education (School of Education).*—Prerequisite: the Education curriculum, page 58. Required: the Secretarial Studies option, page 142, and the professional courses listed on pages 147-48.

### FIRST GROUP

- 1 **Elementary Typewriting (3)** Shott  
 Fundamental techniques of typewriting, basic styles of business letters, introduction to tabulation, and preparation of general office forms. Laboratory fee, \$6. Afternoon and evening sections.  
 Secretarial Studies 1x, same as 1, offered spring term. Evening.
- 2 **Intermediate Typewriting (3)** Shott  
 The business letter and its arrangement, advanced tabulation, manuscript typing, office forms, stencil cutting, and legal documents. Prerequisite: Secretarial Studies 1 or the equivalent; ability to type accurately at 30 words a minute. Laboratory fee, \$6. Afternoon and evening sections.  
 Secretarial Studies 2x, same as 2, offered fall term. Evening.
- 11 **Elementary Shorthand and Transcription (3)** Shott  
 A study of the principles of Gregg shorthand correlated with dictation and transcription. Minimum dictation speed of 60 words a minute attained. Laboratory fee, \$3. Morning and evening sections.  
 Secretarial Studies 11x, same as 11, offered spring term. Evening.
- 12 **Intermediate Shorthand and Transcription (3)** Shott  
 Review of the principles of Gregg shorthand. Dictation and transcription on general and specialized business subjects. Minimum dictation speed of 80 words a minute attained. Prerequisite: Secretarial Studies 11 or the equivalent; ability to take dictation at 60 words a minute. Laboratory fee, \$3. Morning and evening sections.  
 Secretarial Studies 12x, same as 12, offered fall term. Evening.
- 15 **Advanced Shorthand, Typewriting, and Transcription (3)** Cox  
 Emphasis on speed and accuracy. Minimum speed of 100 words a minute attained in dictation. Prerequisite: Secretarial Studies 12 or the equivalent. Laboratory fee, \$3. Evening.

**16 Secretarial Shorthand, Typewriting, and Transcription (3)**

Dictation and transcription involving vocabularies used in specific businesses and professions. Minimum dictation speed of 120 words per minute attained. Prerequisite: Secretarial Studies 15 or the equivalent. Laboratory fee, \$3. Evening.

**51 Business Correspondence (3)**

Development of the technique of effective communication with reference to business letters and forms. Survey and analysis of current business literature. Evening.

**54 Secretarial Practice (3)**

A thorough study of secretarial problems and procedures. Practice in the use of secretarial equipment and supplies. The study of secretarial personality and office relationships. Time to be arranged.



## SOCIOLOGY

Harold Loran Geisert, Ph.D., *Professor of Sociology, Executive Officer*  
 Carr Bartleson Lavell, A.M., *Associate Professor of Sociology*  
 Henry Davidson Sheldon, Ph.D., *Lecturer in Sociology*

*Bachelor of Arts with a major in Sociology (Columbian College—Departmental).*—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56, including Sociology 1-2. Required: the general requirements as stated on pages 71-76, including Sociology 172 and 181 and eighteen hours in second- and third-group courses in Sociology or closely allied fields or departments, if specifically approved in advance by the Department of Sociology.

*Master of Arts in the field of Sociology (Columbian College).*—Prerequisite: the degree of Bachelor of Arts with a major in Sociology in this University, or the equivalent. Required: the requirements for the degree are stated on pages 78-80. The thirty hours of required work must include a minimum of eighteen hours in third-group courses.

### FIRST GROUP

- 1-2 *Introductory Sociology\** (3-3) Lavell, \_\_\_\_\_  
 The origin and development of culture, man's social nature, types of groups and institutions, social processes, factors producing social problems, individual and social disorganization. Morning and evening sections. (Also offered 1952 summer term.)  
 Sociology 12, same as 1, offered spring term. Morning.

### SECOND GROUP

- 123 *Fields of Social Work* (3)  
 The nature and scope of social work, development of social work programs, functions of social case work, social group work, public welfare, community organization and social action. 1953-54 and alternate years.
- 124 *Social Legislation* (3)  
 The principles, theories, and techniques of social legislation, relief of poverty, child welfare, housing and city planning, public health and recreation, social insurance. 1953-54 and alternate years.
- 126 *Urban Sociology* (3) Geisert  
 Types of cities; their origin, location, composition, functions, and problems; urban group life and personality; housing and other urban problems. Morning.
- 127 *Community Organization* (3)  
 The study of social interaction in American communities, factors making for disorganization, community leadership, methods of organizing social forces to meet community needs. 1953-54 and alternate years. Summer term 1952.

\* Sociology 1 is prerequisite to all other courses in Sociology.

- 131 **Social Institutions (3)** -  
The origin and development of social institutions, basic needs producing institutional forms, structures and functions of principal institutions and their interrelationship. 1953-54 and alternate years. Lavelle
- 132 **Marriage (3)**  
The reasons for marriage, marriage laws, mate selection, courtship, husband-wife relations, factors in marital adjustment, marriage preparation and counseling. Morning. (Also offered 1952 summer term. Geiser
- 133 **The Family (3)**  
A study of the primitive and modern family, changing functions and roles of the family and its members, factors promoting disorganization, family crises, family reorganization. Morning. Sheldon
- 134 **Sociology of Child Development (3)**  
The socialization of the child through the home and other social institutions; the changing status of childhood, dependent and handicapped children, child labor. Evening. Geiser
- 135-36 **Crime and Delinquency (3-3)**  
The nature and distribution of crime, factors producing criminal behavior, police systems, the criminal and juvenile courts, the prison system, probation and parole. Afternoon. Sheldon
- 141 **Population Problems (3)**  
The composition of population, theories of population growth, quantitative and qualitative differences in population groups, trends in population growth, population policies. Evening. Lavelle
- 142 **Human Migration (3)**  
Factors producing population movements, causes and consequences of international migrations, internal population redistribution, effects of selective migration. Evening. Lavelle
- 151 **Industrial Sociology (3)**  
Interrelationships of industry and community; sociological analysis of work situation, labor movement, industrial leadership, and morale of the aged, ethnic, and woman worker. Morning. Lavelle
- 162 **Social Movements (3)**  
Major contemporary social movements are examined as aspects of social change and collective behavior. Designed to disclose controlling ideologies and to show the way in which social movements develop. Evening. (Also offered 1953 summer term.) Lavelle
- 164 **Social Control (3)**  
Informal and formal phases of human control; analysis of methods of control used in modern society and the situations in which they occur; policies and techniques of control. 1953-54 and alternate years. Geiser
- 172 **Contemporary Social Theory (3)**  
A systematic study of the important schools of contemporary sociology, including recent European as well as American developments and an evaluation of the scientific contribution of each school. Morning. Lavelle

- 181 *Methods of Social Research* (3) Geisert  
An analysis of social research techniques and the scientific method; the application of the case study, social survey, statistical, sociometric, and experimental methods to social data. Evening.

## THIRD GROUP

- 223 *Seminar: Social Structure* (3) Geisert  
Development and general characteristics of social structure, the role of customs in determining forms of structure analysis of status by types: age, sex, vocational, social classes, and castes. 1952-53 and alternate years, evening.
- 224 *Seminar: Current Trends in Sociology* (3) Geisert  
Analysis and evaluation of structural-functional theory of social systems, manifest and latent functions, and an appraisal of systematic theory in sociology. 1952-53 and alternate years, evening.
- 227 *Seminar: Social Relations* (3)  
General characteristics of social groups, systematic group theory, sociology of groups, evaluation of sociometry, and other techniques of group research. 1953-54 and alternate years.
- 228 *Seminar: Mass Communication* (3)  
The communication process; barriers to communication; structure and function of communication in society; content, control, support, and effects of mass communication. 1953-54 and alternate years.
- 295-96 *Research* (arr.) The Staff  
Time and credits to be arranged. (Also offered 1952 summer term.)
- 299-300 *Thesis* (3-3) The Staff  
Time to be arranged. (Also offered 1952 summer term.)



## SPEECH

Lubin Poe Leggette, A.M., *Associate Professor of Speech, Executive Officer*

\*George Francis Henigan, Jr., Ph.M., *Associate Professor of Speech*  
Calvin Weir Pettit, Ph.M., *Associate Professor of Speech; Director of Speech Clinic*

Edwin Lockwood Stevens, A.M., *Associate Professor of Speech*

Edith Shores Surrey, A.M., *Assistant Professor of Speech*

Lee Sheward Bielski, A.M., *Assistant Professor of Speech*

*Bachelor of Arts with a major in Speech (Columbia College—Departmental).*  
—Prerequisite: the Arts and Letters curriculum in the Junior College, see page 56, including Speech 1, 2, 11, 32. Required: the general requirements as stated on pages 71-76, including the passing of a speech proficiency test early in the program, Speech 101, 131, 153, 175, and a minimum of twelve additional hours in second-group courses, in the speech arts or speech science, as approved by the adviser.

### FIRST GROUP

#### A *Speech Clinic*

Individual or group lessons, without academic credit, for such speech difficulties as lispings, cleft palate, articulatory problems, and stuttering. Fee: for individual lesson, \$5; for group lesson, \$3. (Also offered 1952 summer term.)

#### B *American Speech for Foreign Students*

Individual or group instruction without academic credit, in the formation of the sounds of spoken English, with emphasis on rhythm and inflection. The International Phonetic Alphabet is used. Fee: for individual lesson, \$5; for group lesson, \$3. (Also offered 1952 summer term.)

#### 1 *Effective Speaking (3)*

Preparation and delivery of extempore speeches; developing confidence and poise, body and voice control; selecting and organizing material. Recording fee, \$3. Morning, afternoon, and evening sections. (Also offered 1952 summer term.)

Speech 12, same as 1, offered spring term. Morning, afternoon, and evening sections.

#### 2 *Extempore Speaking (3)*

A continuation of Speech 1, which is prerequisite, with emphasis on organization of material and elementary principles of persuasion. Morning and evening sections. (Also offered 1952 summer term.)

\* On sabbatical leave 1952-53.

- 11 *Training the Speaking Voice* (3) The Staff  
 Developing ease, naturalness, and clarity in the speaking voice. Analysis of individual voices through recordings. Phonetic approach to the study of the sounds of English, the standards of speech. Class instruction in the problems of rate, volume, pitch, and quality. Recording fee, \$3. Morning, afternoon, and evening sections. (Also offered 1952 summer term.)  
 Speech 11x, same as 11, offered spring term. Morning and evening sections.

- 32 *Oral Reading* (3) The Staff  
 Reading to others, theory and practice in the problems of interpreting the printed page. Prerequisite: Speech 11 or the permission of the instructor. Recording fee, \$3. Morning, afternoon, and evening sections. (Also offered 1952 summer term.)  
 Speech 32x, same as 32, offered fall term. Morning.

#### SECOND GROUP

- 101 *Voice and Phonetics* (3) The Staff  
 A study of the International Phonetic Alphabet and its application to the student's own speech improvement; also personal application to such fields as theatre, public speaking, speech correction, radio, and foreign languages. Recording fee, \$3. Afternoon.

- 102 *Oral Interpretation of Literature* (3) The Staff  
 Theory and practice in the problems of communicating meaning and emotion. Selections for study include poetry and prose. Prerequisite: Speech 32 or permission of the instructor. Recording fee, \$3. Evening.

- 109 *Radio Speaking and Production* (3) Stevens  
 Radio speeches, interviews, and discussions; news reporting and interpreting; techniques of direction and production; plays; audience measurement. Prerequisite: Speech 32 or permission of the instructor. Recording fee, \$5. Evening.

- 131 *Group Discussion and Conference Leadership* (3) Stevens  
 The process of thinking and problem solving in committees and small groups, and the methods of leading discussions and conferences. Prerequisite: six credit hours of speech or the permission of the instructor. Afternoon.

- 136 *Public Discussion and Debate* (3) Henigan  
 Principles and types of public discussion and debate; practice in argumentative speaking on questions of current interest. Prerequisite: six credit hours of speech or the permission of the instructor. (Not offered in 1952-53.)

- 143 *Persuasion* (3) Stevens  
 An advanced course in public speaking with emphasis on audience analysis and audience psychology; preparation and delivery of persuasive speeches; study of current public speeches. Prerequisite: nine credit hours of speech. Afternoon.

- 145-46 *History and Criticism of Public Address* (3-3)  
A critical and historical survey of rhetorical theory and public address from Ancient Greece to the present. Prerequisite: nine credit hours of speech. (Not offered in 1952-53.)
- 148 *Speeches for Special Occasions* (3)  
The preparation and presentation of speeches of introduction, presentation, acceptance, welcome, nomination, and eulogy. Prerequisite: Stevens  
nine credit hours of speech. Morning.
- 153-54 *Play Production* (3-3)  
A survey of the art of theatre in all its aspects, including a study of acting techniques, play direction, scenic design and general production problems; a study of the nature of theatre in society, with particular attention to the contemporary non-professional and regional theatre. Laboratory fee, \$5 a term. Evening.
- 162 *Rehearsal and Performance* (3)  
Advanced work in acting and directing. Prerequisite: Speech 153-54. Laboratory fee, \$5. (Not offered in 1952-53.)
- 166 *History of the Theatre* (3)  
A general survey of the rise of the theatre, the Classical, Medieval, Renaissance, later English and Continental, and the Modern theatre. Admission by permission of the instructor. Afternoon. Leggett
- 169 *Creative Dramatics and Children's Theatre* (3)  
A study of creative dramatics and its use as a learning tool, with problems and experience in producing children's plays. Evening. Pettit
- 175-76 *Speech Correction* (3-3)  
A study of the causes of the disorders of speech with emphasis on methods in diagnosis and treatment of defective speech. Prerequisite: Speech 11 and 101 or permission of the instructor. Laboratory fee, \$5 a term. Afternoon. Pettit
- 177-78 *Clinical Practice in Speech Therapy* (1-1)  
Case work in remedial speech. This course may be repeated for a total of three credit hours. Prerequisite: Speech 175. Time to be arranged. (Also offered 1952 summer term.)
- 180 *Speech Pathology* (3)  
An advanced study of the causes and symptoms of the major phonogenic and psychogenic speech disorders. Prerequisite: permission of the instructor. (Not offered in 1952-53.)
- 182 *Introduction to Hearing Problems* (3)  
A study of the field of audiology including anatomy of the ear, tests of hearing, speech reading and auditory training. Prerequisite: Speech 11 or permission of the instructor. Laboratory fee, \$5. Late afternoon. Pettit
- 183-84 *Clinical Practice in Hearing Therapy* (1-1)  
Case work with persons handicapped with hearing losses. This course may be repeated for a total of three credit hours. Prerequisite: Speech 182. Time to be arranged.



## STATISTICS

Frank Mark Weida, Ph.D., *Professor of Statistics, Executive Officer*  
 Everett Herschel Johnson, Ph.D., *Professor of Statistics*  
 Solomon Kullback, Ph.D., *Lecturer in Statistics*  
 Arlyn Custer Rosander, Ph.D., *Lecturer in Statistics*  
 Chester Hayden McCall, Jr., A.B., *Instructor in Statistics*

*Bachelor of Arts or Bachelor of Science with a major in Mathematical Statistics (Columbia College—Field-of-Study).*—Prerequisite: the Arts and Letters or the Science curriculum, respectively, in the Junior College, see pages 56 and 57. Electives must include Mathematics 12, 19, and 20, Statistics 91 and 92, and Philosophy 121 and 122.

Required: the general requirements stated on pages 71-76, including Statistics 117, 118, 155-56, 157-58, and 197-98; a minimum of twenty-four credit hours of second-group courses in departments unrelated to Statistics; and the grade of "pass" on the major examination at the end of the senior year. For further details, consult the Adviser.

*Master of Arts or Master of Science in the field of Mathematical Statistics (Columbia College).*—Prerequisite: a Bachelor of Arts or Bachelor of Science degree, respectively, with a major in Statistics at this University, or the equivalent. Required: the general requirements as stated on pages 78-80. The required thirty credit hours are to be selected from approved third-group courses in Statistics.

*Bachelor of Science in Engineering with an option in Statistics (School of Engineering).*—For curriculum requirements, see pages 118-20, 124-25.

*Bachelor of Arts in Government and Master of Arts in Government with various Field-of-Application majors in Statistics (School of Government).*—See pages 158-61, 163-65.

### FIRST GROUP

#### 51 *Introduction to Business and Economic Statistics (3)*

The Staff

Survey of elementary principles and procedures for presenting, analyzing, and interpreting statistical data; consideration of characteristic values; measures of variability, sampling processes, index numbers, time series analysis, and simple correlation. Prerequisite: one entrance unit in algebra. Laboratory fee, \$6. Lecture (2 hours)—morning and evening sections; laboratory (2 hours)—afternoon and evening sections. (Also offered 1952 summer term.)  
 Statistics 51x, same as 51, offered spring term. Evening.

#### 52 *Mathematics of Finance (3)*

The Staff

Interest and discount, annuities, valuation of stocks and bonds, sinking funds, amortization, valuation of depletable assets, depreciation, building and loan associations. Prerequisite: one entrance unit in algebra. Morning and evening sections. (Also offered 1952 summer term.)  
 Statistics 52x, same as 52, offered fall term. Morning and evening sections.

### 53 *Introduction to Statistics in Psychology and Education* (3) The Staff

Sources of data, tabulation, charts and graphs, averages, dispersion, quartiles and percentiles, raw scores and derived scores, profiles, correlation and their use, frequency distributions, intelligence and other quotients, reliability and validity of tests, normal curve, correlation, elementary sampling, statistical error, limitations of statistics. Prerequisite: one entrance unit in algebra. Laboratory fee, \$6. Lecture (2 hours)—morning and evening sections; laboratory (2 hours)—afternoon and evening sections. (Also offered 1952 summer term.)

Statistics 53x, same as 53, offered spring term. Morning and evening sections.

### †91-92 *Principles of Statistical Methods*\* (3-3) The Staff

This course emphasizes the meaning, uses, and applications of: variation and attributes, measurement and enumeration, averages and dispersion, frequency distributions and their characteristics, trends, cyclical relations, purposive and random sampling in theory and practice and their errors and estimates, correlation in theory, practice, and applications. Prerequisite: one entrance unit in algebra. Laboratory fee, \$6 a term. Lecture (2 hours); laboratory (2 hours). Evening (Also offered 1952 summer term.)

## SECOND GROUP

### 105 *Statistics in Psychology and Education* (3) McCall

Advanced study of correlation and frequency analysis, sampling theory, factor analysis, and applications to specific problems utilizing case method of study insofar as possible. Original work is required of each student. Prerequisite: Statistics 53. Laboratory fee, \$6. Lecture (2 hours), laboratory (2 hours)—evening.

### 109 *Managerial Statistics* (3) Johnson

Role of statistics and the contribution of statistical procedures in various phases of business management with emphasis on the need for and usefulness of the statistical method rather than the mechanics of analysis. Subject matter comprises sources and methods for collecting data, effective forms of presentation, techniques for summarizing and analyzing quantitative and qualitative information, interpretation and inferences from available data. Admission by permission of the instructor or following Statistics 51. Evening.

### 110 *Quality Control Techniques* (3) Johnson

Characteristics; scientific basis; reduction in cost of inspection, rejection, and tolerance limits; quality as an attribute; distribution of quality characteristics; laws basic to control; statistical and maximum control; detection of lack of control. Admission by permission of the instructor or following Statistics 51. (Not offered in 1952-53.)

\* Statistics 91-92 is for statistics majors, for students in engineering and in the biological and physical sciences.

- 111 *Business and Economic Statistics I* (3) Johnson  
Statistical processes as related to particular types of problems encountered in business administration and economic research. Subject matter comprises characteristic values, measures of variability, sampling processes, sampling distributions, and simple correlation. Admission by permission of the instructor. Morning and evening sections.
- 112 *Business and Economic Statistics II* (3) Johnson  
Application of statistical methods to specific problems of business administration and economics. Subject matter comprises multiple and partial correlation, time series analysis, index numbers, business cycles, demand functions, and depreciation schedules. Prerequisite: Statistics 111 or the equivalent. Morning and evening sections.
- 117 *Analysis of Variance* (3) The Staff  
The analysis of variance and covariance to segregate factors producing significant variation, a method to estimate experimental error, multiple classification with unequal class frequencies. Prerequisite: Statistics 91-92. 1953-54 and alternate years. Evening. (Also offered 1952 summer term.)
- 118 *Correlation and the Chi-Square Test* (3) The Staff  
Advanced study of simple, partial, and multiple correlation. Rank correlation, the method of contingency, and the problem of normal and non-normal populations. Tests of independence, likeness, and goodness of fit. Prerequisite: Statistics 91-92. Evening.
- †155-56 *Mathematical Probability* (3-3) Weida  
Definitions, enumeration of cases, total and compound probability, repeated trials, Bayes' theorem and postulate, Bernoulli's theorem and its experimental verification, mathematical expectation, law of large numbers and its applications. Prerequisite: Mathematics 20 and Statistics 91-92. 1952-53 and alternate years. Evening.
- †157-58 *Mathematical Statistics* (3-3) Weida  
Statistics as a science, types of problems, relative frequency and probability, binomial and multinomial distributions, Pearson system of curves, Gram-Charlier series, Cauchy distribution, correlation by regression method, Lexis theory of dispersion, generating functions, simple sampling theory, moments and semi-invariants. Prerequisite or concurrent registration: Statistics 155-56. Evening.
- †197-98 *Statistical Mathematics\** (3-3) Weida  
Matrix algebra, quadratic forms, contour integration, measure theory, Stieltjes integration, Cauchy theory of residues,  $n$ -dimensional geometry in flat spaces. Prerequisite: Mathematics 139 or the equivalent. Evening.
- 199-200 *Proseminar: Theoretical and Applied Statistics* (3-3) Weida  
In addition to the study of recent advances in statistical methods, this course is designed to coordinate the content of the baccalaureate major. Admission by permission of the instructor. Time to be arranged.

\* Statistics 197-98 is prerequisite to all third-group courses.



## THIRD GROUP \*

- 201 *Design of Experiments* (3) Weida  
Relative merits of random, repeated, stratified, and double sampling; Fisher-Pitman method of randomization; randomized blocks; Latin squares; factorial design; confounding, partial confounding. (Not offered in 1952-53.)
- 202 *Theory of Estimation and Testing Hypotheses* (3) Weida  
Statistical hypotheses; maximum likelihood estimate; Markoff's best estimate; Neyman-Pearson theory of testing hypotheses; Bayes' theory; consistent, efficient, and sufficient statistics; theory of confidence intervals. (Not offered in 1952-53.)
- †203-4 *The Theory of Econometrics* (3-3) Johnson  
Statistical methods applied to the analysis of production, supply, and demand; utility and disutility; interest and taxation; exchange. Stress is placed on the interpretation of results in terms of probability. Correlation and regression of time series. Admission by permission of the instructor. (Not offered in 1952-53.)
- 205-6 *Advanced Business and Economic Statistics* (3-3) Johnson  
Application of statistical methods to specific problems utilizing case method insofar as possible. Emphasis is placed on source materials, role of statistical methods, techniques of analysis, interpretation and presentation of results. Original work is required of each student. Prerequisite: Statistics 112 or the equivalent. (Not offered in 1952-53.)
- †257-58 *Advanced Mathematical Statistics* (3-3) Weida  
Mathematical basis of distribution functions, moments and cumulants, probability and likelihood, sampling distributions exact and approximate. Chi-square distribution, association and contingency, various conceptions of correlation, individual difference problem, time series, regression analysis, analysis of variance, theories of inference. (Not offered in 1952-53.)
- †259-60 *Advanced Mathematical Probability* (3-3) Kullback  
Modern theories and asymptotic laws; elementary theory of definite integration; limit theorems in probability; the contributions of Cramér, Frechet, Kolmogoroff, Khintchine. Prerequisite: Statistics 257-58 or the equivalent. (Not offered in 1952-53.)
- †263-64 *Statistical Inference* (3-3) Weida  
Sample space; methods for estimating population parameters; fiducial inference and its application to testing hypotheses; valid, efficient, and exact estimation; Student's distribution; variance distribution, sampling statistics, i.e., moments and cumulants used as estimates of population parameters and used to test hypotheses. Prerequisite or concurrent registration: Statistics 257-58 or the equivalent. (Not offered in 1952-53.)

\* Statistics 107-08 is prerequisite to all third-group courses.

- †265-66 *Multivariate Analysis* (3-3) Weida  
Tests of significance, generalized variance and covariance, tests of independence, canonical and vector correlations, multivariate, normal distribution, generalized Student's ratio, problems of estimation, applications to factor analysis. (Not offered in 1952-53.)
- †267-68 *Characteristic Functions* (3-3) Kullback  
Fourier integrals, set functions, inversion formulas, limit theorems, applications to the distribution problem in statistics. Evening.
- †269-70 *Sequential Testing* (3-3) Kullback  
Efficiency of sequential tests, sequential probability ratio test, expected number of observations necessary for a decision, truncated sequential analysis, sequential tests of single and composite hypotheses. Evening.
- 295-96 *Reading and Research* (3-3) Weida  
Admission by permission of the instructor. Time to be arranged.
- 299-300 *Thesis* (3-3) Weida

## SURGERY

- Brian Blades, A.B., M.D., *Professor of Surgery, Executive Officer*  
 Daniel LeRay Borden, A.M., M.D., *Clinical Professor of Surgery*  
 Paul Stirling Putzki, M.D., *Clinical Professor of Surgery*  
 Arch Lockhart Riddick, B.S., M.D., *Clinical Professor of Surgery*  
 John Hugh Lyons, M.S., M.D., *Clinical Professor of Surgery*  
 John Gordon Lee, A.B., M.D., C.M., Med. Sc.D., *Adjunct Clinical Professor of Surgery*  
 Sam Foster Seeley, B.S., B.M., M.D., *Adjunct Clinical Professor of Surgery*  
 Wallace Harry Graham, B.S., M.D., *Professorial Lecturer in Surgery*  
 Russell Kuhner Hollingsworth, M.S., M.D., *Professorial Lecturer in Surgery*  
 Herbert Hermann Schoenfeld, M.D., *Associate Clinical Professor of Surgery*  
 Alec Horwitz, M.S., M.D., *Associate Clinical Professor of Surgery*  
 William Stanley McCune, A.B., M.D., *Associate Clinical Professor of Surgery*  
 Benjamin Franklin Dean, Jr., M.S., M.D., *Assistant Clinical Professor of Surgery*  
 Carl Berg, M.D., *Assistant Clinical Professor of Orthopedic Surgery*  
 Calvin Trexler Klopp, A.B., M.D., *Assistant Clinical Professor of Surgery*  
 Julius Salem Neviaser, A.B., M.D., *Assistant Clinical Professor of Orthopedic Surgery*  
 Jerome Blaine Harrell, M.D., *Assistant Clinical Professor of Surgery*  
 Leonard Theodore Peterson, B.S., M.D., *Assistant Clinical Professor of Orthopedic Surgery*  
 Walter Henry Gerwig, Jr., A.B., M.D., *Assistant Clinical Professor of Surgery*  
 Richard Knight Thompson, D.D.S., *Associate in Dental Surgery*  
 William Ross Morris, M.D., *Associate in Surgery*  
 Jacob Joseph Weinstein, B.S., Phar.G., M.D., *Associate in Surgery*  
 William Carey Meloy, M.D., M.S. in Med., *Associate in Surgery*  
 Edward Alexander Cafritz, M.D., *Associate in Surgery*  
 Karl Hayden Wood, Ph.G., D.D.S., *Associate in Dental Surgery*  
 Vincent Michael Iovine, B.S., M.D., *Lecturer in Surgery*  
 James Leo Kelley, A.B., M.D., *Instructor in Surgery*  
 Owen Gwathmey, A.B., M.D., *Instructor in Surgery*  
 Crenshaw Douglas Briggs, B.S., M.D., *Clinical Instructor in Surgery*  
 Joseph Francis Conlon, D.D.S., *Clinical Instructor in Dental Surgery*



- Duane Case Richtmeyer, A.B., M.D., *Clinical Instructor in Surgery*  
 \*Richard Lee Jackson, M.D., *Clinical Instructor in Surgery*  
 Leon Gerber, M.D., *Clinical Instructor in Surgery*  
 Thomas Bradley, A.B., M.D., *Clinical Instructor in Surgery*  
 Lloyd Byron Burk, Jr., M.D., *Clinical Instructor in Surgery*  
 Ernest Alva Gould, B.S., M.D., *Clinical Instructor in Surgery*  
 Austin Bertram Rohrbaugh, Jr., M.D., *Clinical Instructor in Orthopedic Surgery*  
 Marvin Hayne Kendrick, A.B., M.D., *Clinical Instructor in Surgery*  
 \*Brooks Gideon Brown, B.S., M.D., *Clinical Instructor in Surgery*  
 Gordon Sparks Letterman, B.S., M.D., *Clinical Instructor in Surgery*  
 Lois Irene Platt, A.B., M.D., *Clinical Instructor in Surgery (Cancer Cytology)*  
 John Decator Hoyle, B.S., M.D., *Clinical Instructor in Surgery*  
 Henry Leon Feffer, A.B., M.D., *Clinical Instructor in Orthopedic Surgery*  
 Robert Roland Smith, B.S., M.D., *Clinical Instructor in Surgery*

101-2 **Surgical Anatomy**      Surgery and Anatomy Staffs  
 Entire first-year class. Clinics illustrating relationship between gross anatomy and clinical surgery. University Hospital. One hour every two weeks.

280 **Introduction to Surgery**      The Staff  
 One hour twice a week. Lectures and recitations covering the field of general surgery.

284 **Surgical Physiology**      The Staff  
 A clinical and laboratory course with particular emphasis on applied physiology. Two hours a week.

373-74 **Clinical Clerkship I**      The Staff  
 The student is assigned and required to work up thoroughly the cases for diagnosis and treatment. Gallinger Hospital.

375-76 **Outpatient Surgical Clinic**      The Staff  
 Surgical clinic. Gallinger Hospital. Forty hours.

377-78 **Orthopedics I**      The Staff  
 Weekly orthopedic lecture, Gallinger Hospital; weekly seven and one-half hour ward rounds. Gallinger Hospital.

379-80 **Surgical Staff Conference I**      The Staff  
 Tuesday at Gallinger Hospital.

\* On national service leave.

- 383-84 *Surgical Clinic I*  
Demonstration of various surgical diseases to the entire third-year class. One hour a week. Blades
- 473-74 *Clinical Clerkships II*  
University Hospital, six weeks. Mt. Alto or Emergency Hospital, three weeks. The Staff
- 479-80 *Surgical Staff Conference II*  
Wednesday at the University Hospital. The Staff
- 483-84 *Surgical Ward Rounds*  
Demonstration of various surgical diseases to fourth-year clerks. University Hospital. One hour a week. Blades
- 491-92 *Surgical Pathology II*  
One hour conferences each week. Hill
- 493-94 *Surgical Anatomy*  
Lectures for fourth-year clerks. University Hospital. One hour a week for twelve weeks. Blades and Staff
- 497-98 *Surgical Clinic*  
Conferences for fourth-year clerks assigned to the University Hospital. Walter Reed Hospital. Two hours a week. Blades and Staff

## UROLOGY

Frederick A. Reuter, M.D., *Professor of Urology, Executive Officer*  
 Thomas Carlton Thompson, B.S., M.D., *Clinical Professor of Urology*  
 Gilbert Ottenberg, A.M., M.D., *Associate in Urology*  
 William Dabney Jarman, B.S., M.D., *Associate in Urology*  
 Edward Egner Ferguson, M.D., *Associate in Urology*  
 Leon Richard Culbertson, B.S., M.D., *Associate in Urology*  
 Gordon Rhodes MacDonald, B.S., M.D., *Clinical Instructor in Urology*  
 Herbert DeGrange Wolff, Jr., M.D., *Clinical Instructor in Urology*

### 395-96 Clinics

The Staff

Clinical teaching and demonstrations on the care of urological cases with special emphasis on the pre- and post-operative management. Operative clinics and clinical teaching. Gallinger Hospital.

### 491-92 Urology

Reuter and Staff

Lectures covering the entire field of urology including diagnosis, treatment, and morbid pathology. One hour a week.

### 495-96 Clinics

Reuter and Staff

Clinical demonstrations, teaching in the Outpatient Department, and urological X-ray conferences, with special attention given to diagnostic procedures. University Hospital. One part of each section three hours a week.



## ZOOLOGY \*

Donnell Brooks Young, Ph.D., *Professor of Zoology*  
 Ira Bowers Hansen, Ph.D., *Professor of Zoology, Executive Officer*  
 Kenneth Casper Kates, Ph.D., *Professorial Lecturer in Zoology*  
 Edith Elizabeth Mortensen, Ph.D., *Associate Professor of Zoology*

*Bachelor of Arts or Bachelor of Science (Columbia College—Field-of-Study).*  
 —Prerequisite: the Arts and Letters or the Science curriculum, respectively, at the Junior College, see pages 56-57, including Zoology 1-2. Required: the general requirements as stated on pages 71-76, and the grade "pass" on the Zoology major examination at the end of the senior year. The correlated knowledge upon which the student will be examined includes the following fields: (1) classification, structure, and ecological relations of animals, both invertebrate and vertebrate; (2) embryological development and life histories of important animal types; (3) general principles of physiology, heredity, and evolution; (4) the development of biological principles, hypotheses, and theories as revealed in the study of the history of zoology.

*Master of Arts or Master of Science in the field of Zoology (Columbia College).*—Prerequisite: the degree of Bachelor of Arts or Bachelor of Science, respectively, with a major in Zoology at this University, or the equivalent. Required: the general requirements as stated on pages 78-80.

### FIRST GROUP

#### 1-2 *Introduction to Zoology (4-4)*

An introduction to the study of the structure, functions, and relations of animals, and of the fundamental biological principles involved. Material fee, \$9 a term. Lecture (2 hours)—morning and evening sections; laboratory (4 hours)—morning, afternoon, and evening sections. (Also offered 1952 summer term.)

#### 41-42 *Comparative Vertebrate Anatomy (3-3)*

Lectures on the organ systems of the vertebrates; laboratory dissections of types. Prerequisite: Zoology 2. Material fee, \$9 a term. Lecture (1 hour)—afternoon and evening sections; laboratory (4 hours)—morning and evening sections.

### SECOND GROUP

#### 101-2 *Invertebrate Zoology (3-3)*

A systematic study of invertebrate forms, including the study of morphology, classifications, life histories, and phylogenetic relationships. Occasional field trips. Prerequisite: Zoology 1-2 or Biology 1-2. Material fee, \$6 a term. Lecture (1 hour); laboratory (4 hours)—Evening.

#### 105 *Entomology (3)*

A study of the elementary morphology, physiology, and ecology of insects, with an introduction to the taxonomy of the more important groups.

\* See also the departments of Biology and Botany.

groups. Prerequisite: Zoology 1-2, or the equivalent. Material fee, \$6. Lecture (1 hour), laboratory (4 hours)—evening.

- 122 *Zoological Theories* (3) Young  
A review of the theories which have affected the development of the various phases of the progress of Zoology. Prerequisite: Zoology 1-2 and one additional year of a biological science. Morning.
- 137 *Histology* (3) Young  
An introduction to the microscopical anatomy of normal tissues and organs. Prerequisite: Zoology 1-2. Material fee, \$9. Lecture (1 hour), laboratory (4 hours). 1952-53 and alternate years, afternoon. 1953-54 and alternate years, evening. (Also offered 1952 summer term.)
- 144 *Introduction to Vertebrate Embryology* (3) Hansen  
The origin and early development of the individual and the formation of organ systems. Emphasis is placed on the frog, chick, and pig, with reference to the human embryo. Prerequisite: Zoology 2, and 41 or 42. Material fee, \$9. Lecture (1 hour); laboratory (4 hours)—afternoon. (Also offered 1952 summer term.)  
Zoology 144x, same as 144, offered fall term. Evening.
- 147-48 *Morphogenesis* (3-3) Hansen  
Lectures and class reports on experimental morphology. Prerequisite: Zoology 41-42 or the equivalent. 1952-53 and alternate years, evening.
- 152 *Protozoa* (3) Mortensen  
An introduction to the protozoa: classification, life histories, and physiology, with special emphasis on free-living types. Prerequisite: Zoology 1. Material fee, \$6. Lecture (1 hour); laboratory (4 hours). 1953-54 and alternate years, evening.
- 156 *Parasitology* (3) Kates  
An introduction to the study of animal parasitology, with a survey of parasitic types from protozoa through arthropods. Prerequisite: Zoology 1-2 or the equivalent. Material fee, \$9. Evening.
- 162 *Insect Physiology* (3) Munson  
Lectures and laboratory work on the physiology of insects. Admission by permission of the instructor. Material fee, \$9. Evening.
- 171-72 *Special Problems* (3-3) The Staff  
Written approval of the instructor is required. Material fee, \$9 a term. Time to be arranged.
- 199-200 *Proseminar* (3-3) The Staff  
A course designed to correlate and supplement the work of zoology majors. Morning and evening sections.
- THIRD GROUP**
- 203-4 *Seminar in Invertebrate Zoology* (3-3) Mortensen  
Time to be arranged.

- 214 *Advanced Invertebrate Zoology* (3) Mortensen  
Lectures and laboratory work on problems in invertebrate physiology.  
Prerequisite: Zoology 1 and 101-2 or the equivalent. Material fee.  
\$6. Lecture (2 hours); laboratory (2 hours). 1952-53 and alternate years, evening.
- 251-52 *Seminar in Vertebrate Zoology* (3-3) Hansen  
Time to be arranged.
- 295-96 *Research* (arr.) The Staff  
Investigation of special problems. Time and credits to be arranged.  
(Also offered 1952 summer term.)
- 299-300 *Thesis* (3-3) The Staff  
Time to be arranged. (Also offered 1952 summer term.)



STUDENT LIFE



## STUDENT LIFE

### HEALTH ADMINISTRATION

The University maintains a health service that is primarily diagnostic in its intent. For medical emergencies and health consultations there is, on the Campus, a Student Health Clinic open from 9:00 A.M. to 5:00 P.M., with physician and nurse in attendance. There is also a rest room for women, with a graduate nurse in charge.

Medical privileges include: (1) the physical examination of every student entering from secondary school; (2) three visits by the University physician or surgeon, office or residence (District of Columbia) in any one illness, exclusive of a specialist, surgical operation, laboratory, or X-ray examination; (3) hospitalization, including board and nursing, in the University Hospital for not more than one week during any twelve-month period. For a statement of the rules governing medical and hospital privileges, see the Department of Health Administration.

### LIVING ACCOMMODATIONS

*Women Students.*—The Hattie M. Strong Residence Hall provides single rooms at \$35 a month and double rooms at \$30 a month a person. Meals are served at the Student Union. Applications for rooms should be made well in advance. Forms for application, together with detailed information, may be obtained from the Director of Activities for Women.

Girls under the age of twenty-one who are enrolled for twelve or more credit hours of academic work in the University and who are not living with their parents or relatives may live outside the dormitory only with the permission and approval of the Director of Activities for Women, upon receipt of written requests from parents. In no case will permission be granted for such girls to live in apartments, except with persons approved by the Director of Activities for Women.

*Men Students.*—Welling Hall provides double room facilities for 102 students. Rooms rent for \$24 a month a person. Dining facilities are available to all residents. Single and double rooms are provided for 132 students in Draper Hall, a temporary dormitory. Single rooms are \$17 a month; double rooms are \$13 a month a person. The University maintains a limited number of temporary apartment units for married students. Meals are served at the Student Union. Application forms for reservations may be obtained from the Director of Activities for Men.

Information concerning private rooming and boarding facilities near the University for women students twenty-one years of age or older and



for men students may be obtained at the offices of the Director of Activities for Women and the Director of Activities for Men respectively. The reservation of rooms in private houses must be made by students.

### RELIGIOUS LIFE

The University recognizes the contribution that religion can make to the education of its students by encouraging them to participate in denominational clubs of their own choice. National Catholic, Jewish, and Protestant bodies sponsor these religious organizations, which act as links between the University and the local churches. The Director of the University Chapel and the advisers to the various denominational organizations are available throughout the year for consultation on personal problems.

### UNIVERSITY CHAPEL

The University Chapel is maintained as a non-sectarian expression of the faith of the University in the contribution that religion can make to the education of its students. Twenty-minute services are held Wednesday of each week at 12:10 P.M. Representative clergymen of Washington are guest speakers at these non-denominational services.

### PLACEMENT OFFICE

The Placement Office, 2114 G Street NW., provides assistance to students and alumni seeking full- and part-time employment. This office maintains a registry of positions locally and nationally available and refers qualified applicants for consideration. Information is also available on Civil Service examinations.

### VOCATIONAL COUNSELING

The University Testing Center is located at 2114 G Street NW. The Center offers educational and vocational testing and counseling service. This office maintains a file of occupational information and training opportunities.

### STUDENT UNION

The Student Union, 2125 G Street NW., is the center for student life. From the cafeteria and snack bar on the first floor to the game room on the fourth floor, it is well planned to meet the students' need for meals, study, recreation, and activities. In addition to the recreation lounge and social lounge the Student Union provides office space for the Student Council and for the other major student organizations.

The Student Activities Office, also in the Student Union, has available information concerning the student organizations and campus events.

### INTERNATIONAL HOUSE

The International House, 2116 G Street NW., is the social center for students from foreign countries. A series of teas, dances and other forms of entertainment, and the use of club rooms and lounge enable students to become acquainted and feel at home in the University.

The International Students' Society, celebrating its twentieth anniversary year, welcomes as members students from other lands as well as North American students.

The Adviser to Students from Foreign Countries, whose office is in International House, is available for advice and guidance.

### STUDENT ACTIVITIES

#### DIRECTORS OF STUDENT ACTIVITIES

The University maintains the offices of the Director of Activities for Men and the Director of Activities for Women, for the guidance of students in all nonacademic phases of student life, such as, student activities, social life, and housing. The directors are available for individual counseling concerning personal adjustment to university life.

### STUDENT GOVERNMENT

#### Student Council

The Student Council is responsible to the Director of Activities for Men and the Director of Activities for Women for the conduct of all student activities. Members of the Council are elected annually.

#### Committee on Student Life

The Committee on Student Life is the judicial branch of the student government. It is composed of not more than seven members of the faculty, appointed by the President of the University, and not more than six members of the student body, nominated by the Student Council and appointed by the President of the University. This committee has the power to review the acts of all student organizations, including the Student Council, and set aside acts that are contrary to established policy and regulations of the University or the Committee.

*Approval of Student Organizations.*—This committee is granted authority to approve or disapprove the establishment of any proposed organization on campus. No student club or society (except social fraternities, societies, scholastic honor societies, religious or professional clubs or societies) organized as a branch or affiliate of a non-George Washington University organization will be recognized by the Committee on Student Life.

## ELIGIBILITY FOR STUDENT ACTIVITIES

Any student registered in The George Washington University who has a general average of not less than *C* (2.00) is eligible to participate in non-athletic student activities approved by the Committee on Student Life.

The rules and policies of the Southern Conference govern participation in intercollegiate athletics.

The control and administration of all student activities are outlined in a separate bulletin.

## STUDENT ORGANIZATIONS

## HONOR SOCIETIES

*Phi Beta Kappa*.—A national honor society recognizing "outstanding intellectual capacity well employed" in the field of liberal arts and sciences. Senior and junior students who are candidates for the degree of Bachelor of Arts or Bachelor of Science in Columbian College (in exceptional cases, senior and junior students in other non-professional divisions of the University) and who have shown broad cultural interests, distinguished scholarly achievement, high character, general promise, and scholarly ideals may, to a number not exceeding 15 per cent of a class, be elected to membership by the Faculty members of the Alpha Chapter of the District of Columbia.

*Sigma Xi*.—A national scientific honor society, the purpose of which is to encourage original investigation in science pure and applied. Outstanding graduate students in the sciences are eligible for full membership, and undergraduates who have shown marked ability in research may be elected to associate membership.

*Alpha Lambda Delta*.—A national fraternity established to encourage and reward high scholarship and attainment, membership in which is limited to those freshmen women who attain a scholastic average of at least 3.50.

*Alpha Pi Epsilon*.—An honorary fraternity for students in home economics.

*Artus*.—A national economic society.

*Delphi*.—An intersorority society.

*Delta Sigma Rho*.—A national forensic honor society.

*Gate and Key*.—An interfraternity society.

*Iota Sigma Pi*.—A national honorary chemical society for women.

*Kappa Kappa Psi*.—A national honor society for college bandmen.



*Mortar Board.*—A national honorary society for senior college women, stressing leadership, scholarship, and service.

*Omicron Delta Kappa.*—A national fraternity emphasizing leadership in extracurricular activities.

*Order of the Coif.*—A national legal society, the purpose of which is to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship. Members are elected each year from the highest 10 per cent of the graduating class of the Law School.

*Phi Eta Sigma.*—A national fraternity, established to encourage and reward high scholarship and attainment, membership in which is limited to those freshman men who attain a scholastic average of at least 3.50.

*Pi Delta Epsilon.*—A national honorary collegiate journalism fraternity.

*Phi Epsilon Phi.*—An honorary botany fraternity.

*Pi Gamma Mu.*—A national social-science society.

*Psi Chi.*—A national honorary psychology fraternity.

*Sigma Pi Sigma.*—A national honorary physics fraternity.

*Sigma Tau.*—A national engineering fraternity, the purpose of which is to recognize scholarship and professional attainment.

*Smith-Reed-Russell Society.*—A scholastic society in the School of Medicine. Students of the third and fourth years who maintain a scholastic average of 86 per cent are eligible for associate membership.

*William Beaumont Medical Society.*—A society founded with the object of encouraging and stimulating medical students in work of individual investigation.

#### PROFESSIONAL ORGANIZATIONS

Alpha Chi Sigma (chemistry) Alpha Epsilon Iota (medicine), Alpha Kappa Psi (commerce and economics), Alpha Zeta Omega (pharmacy), American Institute of Electrical Engineers (student chapter), American Institute of Radio Engineers (student chapter), American Pharmaceutical Association (student branch), American Society of Civil Engineers (student chapter), Chi Upsilon (geology), Delta Phi Epsilon (foreign service), Delta Theta Phi (law), Future Teachers of America, Gamma Eta Gamma (law), Kappa Beta Pi (law), Kappa Psi (pharmaceutical), Mortar and Pestle (pharmacy), Nu Sigma Nu (medicine), Phi Alpha Delta (law), Phi Chi (medicine), Phi Delta Delta (law), Phi Delta Epsilon (medicine), Phi Delta Gamma (graduate), Phi Delta Kappa (education), Phi Delta Phi (law), Phi Pi Epsilon (foreign service), Pi Lambda Theta (education), Society for the Advancement of Management (student chapter), Theta Tau (engineering).

## SOCIAL FRATERNITIES

Sigma Chi, Kappa Sigma, Kappa Alpha, Theta Delta Chi, Phi Sigma Kappa, Sigma Alpha Epsilon, Sigma Phi Epsilon, Phi Alpha, Sigma Nu, Acacia, Tau Kappa Epsilon, Pi Kappa Alpha, Tau Epsilon Phi, Alpha Epsilon Pi, Delta Tau Delta, Phi Epsilon Pi.

## SOCIAL SORORITIES

Pi Beta Phi, Chi Omega, Sigma Kappa, Alpha Delta Pi, Delta Zeta, Kappa Delta, Phi Sigma Sigma, Zeta Tau Alpha, Kappa Kappa Gamma, Delta Gamma, Kappa Alpha Theta.

## DEPARTMENTAL CLUBS

Art Club; Case Club; Charles Clinton Swisher History Club; Dance Production Groups, I, II, III; El Club Español; Engineering Council; Enosinian Debating Society; Home Economics Club; Howard E. Kane—A.F.A. King Obstetrical Society; Le Cercle Français; Lester F. Ward Sociological Society; Mathematics Club; Oquassa; Psychology Club; Schoenfeld Verein; Speech and Hearing Society; Student Bar Association.

## RELIGIOUS ORGANIZATIONS

Baptist Student Union, B'nai B'rith Hillel Foundation, Canterbury Club, Christian Science Organization, Lutheran Student Association, Newman Club, Religious Council, Wesley Club, Westminster Foundation.

## MUSICAL ORGANIZATIONS

The George Washington University Glee Club, University Band.

## STUDENT PUBLICATIONS

*The Cherry Tree* (the annual), *The University Hatchet* (weekly newspaper), *The George Washington Law Review*, *Mechelecia* (engineers' publication), *The Percolator* (pharmaceutical publication).

## OTHER ACTIVITIES

Alpha Phi Omega—National Service Fraternity, Alpha Theta Nu (scholarship winners), Big Sisters, Cheerleaders, Chess Club, Colonial Boosters, Hellenic Society, Inter-fraternity Council, Inter-fraternity Pledge Council, International Students' Society, Inter-sorority Athletic

Board, Intramural Council, Junior Panhellenic Association, Martha Washington Club, Masonic Club, Sailing Association, Senior Panhellenic Association, Strong Hall Council, Student Council, The George Washington University Players, Women's Recreation Association, World Government Seminar Group.

There is a complete program of intramural sports for both men and women.





## INDEX





## INDEX

### A

Absence, regulations concerning  
 SEE Attendance  
 Academic Council, xxi-xxii  
 Academic status of the University, 6  
 Accounting:  
   Associate in Arts curriculum in, 61-62  
 Bachelor of Arts in Government curriculum in, 60, 160  
   Courses in, 189-92  
   Master of Arts in Government curriculum in, 164  
 Activities, student, 369-70  
   SEE ALSO special bulletin  
 Administration, officers of, xix-xx  
 Administrative Assistants, lxvii-lxxi  
 Administrative Units, 179-84  
 Admission, 12-20  
 Advanced standing, 13-14, 16, 18  
 Advertising, courses on, 214, 266  
 Advisory system:  
   In the Junior College, 51  
   In the School of Engineering, 117  
 Air Force, School of Government Special Programs, 168  
 Air Science, Division of, 20, 175-76  
 Air Science and Tactics, courses in, 193-94  
 American Literary and Cultural History, Master of Arts field in, 77-80, 244  
 American Thought and Civilization, Major in, 73, 74-76, 243-44  
 Anatomy:  
   Courses in, 195-96  
   Doctoral Research in, 84  
 Anesthesiology, courses in, 194  
 Aptitude tests, 13, 52, 184  
 Art, courses in, 198-200  
 Arts and Sciences, college of, 63-80  
 Attendance, 38, 42  
   SEE ALSO Colleges, Schools, and Divisions  
 Auditor, 24, 40  
 Awards, 32-37

### B

Bacteriology:  
   Courses in, 201-3  
   Doctoral research in, 84  
 Biochemistry:  
   Courses in, 204-5

  Doctoral research in, 84  
 Biology:  
   Courses in, 206-7  
   Doctoral research in, 84  
 Botany:  
   Courses in, 208-10  
   Doctoral research in, 84  
 Buildings of the University, 8-10  
 Business Administration:  
   Bachelor of Arts in Government curriculum in, 60, 159-60  
   Courses in, 211-15  
   Degree of Doctor of, 167  
   Master of Arts curriculum in, 166

### C

Calendar for 1952-53, vii-xi  
 Change in program of studies, 40  
 Chapel, 368  
 Chemistry:  
   Courses in, 216-20  
   Doctoral research in, 84  
 Civil Engineering:  
   Courses in, 221-23  
   Curriculum in, 119-21  
 Classical Languages and Literatures, courses in, 224  
 Classification of students, 20, 54, 70, 108  
 Clinics, School of Medicine, 94-95  
 College Entrance Board examinations, 13  
 Colleges, Schools, and Divisions, 5-6, 45-177  
 Columbian College (senior college of liberal arts), 63-80  
   Entrance requirements, 14-15 56-57  
   Prerequisite to Bachelor of Arts and Bachelor of Science curricula in, 68-70  
 Commencement  
   SEE Graduation  
 Committees of the Faculty, xxiii-xxiv  
   SEE ALSO UNDER Colleges, Schools, and Divisions  
 Communications option in Electrical Engineering, 121-22  
 Comptrollership:  
   Special Program, School of Government, 167-68  
 Community Services, College of General Studies, Division of, 170-71  
 Contents, table of, v-vi

## Convocation

SEE Graduation

Correspondence courses, 71

Counseling, courses on, 237, 330, 333, 334

Course numbers, explanations of, 187-88

Courses of instruction, 185-364

## Credit:

Credit hour, explanation of, 188

Credit hours, maximum allowed full- and part-time students

SEE Colleges, Schools, and Divisions

Explanation of amount of, 188

Toward a degree, 40

## Transfer of:

For correspondence and home study courses, 71

For professional courses, 72

For summer school work, 40

From other institutions, 12-13, 13-14, 16, 18

Within the University, 73, 172, 173

## D

Dance, courses on, 306-7, 307, 311, 312

## Degrees:

Associate in Arts, 54-62

In Accounting, 61-62

In Secretarial Studies, 61

Bachelor of Arts, 71-74, 74-76

In Education, 137-38

In Government, 157-61

Bachelor of Civil Engineering, 118-21

Bachelor of Electrical Engineering, 118-20, 121-23

Bachelor of Laws, 108-11

Bachelor of Mechanical Engineering, 118-20, 123-24

Bachelor of Science, 71-73, 74-76

In Engineering, 118, 119-20, 124-25

In Home Economics, 137-38, 139

In Pharmacy, 129-31

In Physical Education for Men, 137-38, 139-40

In Physical Education for Women, 137-38, 140-41

Civil Engineer, 125

Combined Bachelor of Arts and Doctor of Medicine, 71, 72, 73-74, 98-99

Doctor of Business Administration, 167

Doctor of Education, 150-52

Doctor of Juridical Science, 113-14

Doctor of Medicine, 98-99

Doctor of Philosophy, 84-88

Electrical Engineer, 125

Juris Doctor, 108-9, 109-11

Master of Arts, 77, 78-80

In Education, 148-50

In Government, 163-65

In Personnel Administration, 161-63, 166

In Public Administration, 161-63, 165-66

Master of Business Administration, 161-63, 166

Master of Comparative Law, 113

Master of Comparative Law (American Practice), 113

Master of Laws, 111, 112-13

Master of Science, 77, 77-80

In Pharmacy, 131-33

Mechanical Engineer, 125

Dermatology, courses in, 225

Dismissal of students, 44

Dissertation, requirements for, 42

Distinction, degrees with, 42, 62, 90, 109

Distinguished Military Graduate, 43

Distinguished Military Student, 43

Divisional Organization, 68

Doctoral Dissertation, form of, 42

Dormitories, 367

Dramatics, courses on, 352

Dropping courses, 39-40

## E

Economic Policy, Master of Arts in Government curriculum in, 104

Economics:

Courses in, 226-32

Doctoral research in, 84

International, Foreign Affairs curriculum in, 158, 163

Education:

Courses in, 233-39

School of, 134-52

Entrance requirements, 18-19, 50-59

Teaching fields, 141-47

Educational Facilities of the University, 8-10

Electrical Engineering:  
 Communications option in, 121-22  
 Courses in, 240-42  
 Curriculum in, 119-20, 121-23  
 Power option in, 122-23  
 Eligibility for student activities, 370  
 Emeritus Faculty, xxv-xxvi  
 Employment, student, 368  
 Endowment of the University, 4  
 Engineering:  
 Courses in, 221-23, 240-42, 279-81  
 School of, 115-25  
 Entrance requirements, 17-18  
 English:  
 Courses in, 243-49  
 Placement examination, 52, 245  
 Entrance requirements, 14-20  
 Examinations, 39  
 College Entrance Board, 13  
 For admission, 13, 184  
 For placement in language courses, 52  
 For qualifying for advanced standing or waiving curriculum requirements, 62, 73, 161  
 SEE ALSO IN University Calendar  
 Graduate Record, 13  
 Physical, 41, 181, 304, 309, 367  
 Scholastic Aptitude tests, 52, 184

## F

Faculty:  
 Alphabetical list, xxvii-lxvi  
 Standing committees, xxiii-xxiv  
 Fees, 22-25  
 Fellowships, 26-27, 88-89  
 Financial aid, 37  
 Financial regulations, 22-25  
 Foreign Affairs:  
 Bachelor of Arts in Government curricula in, 60, 158-59  
 Master of Arts in Government curricula in, 158-59  
 Foreign Commerce, major in, 159-60  
 Foreign language:  
 Placement examination, 52  
 Requirements, 55  
 SEE Foreign Service, curricula in,  
 SEE Foreign Affairs  
 Foreign Service Review Course, 168  
 Foreign Students, 112, 369  
 Fraternities, social, 372  
 French:  
 Courses in, 339-41  
 Placement examination, 52

## G

General Studies, College of, 169-71  
 Genetics, course on, 207  
 Geography, courses in, 250-53  
 Geology, courses in, 254  
 Germanic Languages and Literatures, courses in, 255-56  
 Government of the University, 7  
 Government, School of, 153-68  
 Bureau of Business and Economic Research, 168  
 Entrance requirements, 19-20, 60-61  
 Special Programs, 167-68  
 Government Management Intern Scholarship Program, 171  
 Grades, 38-39, 97, 107  
 Grading system, 38-39, 97, 107  
 Graduate Council, 15, 81-89  
 Fields of research, 84-86  
 Graduate Record examination, 13  
 Graduate study, 5, 77-80, 81-89, 99, 111-14, 125, 131-33, 148-52, 161-68  
 SEE ALSO Degrees  
 Graduate placement, 368  
 Law School, 105  
 Graduation:  
 Application for, 141  
 Dates  
 SEE University Calendar, ix-xi  
 Requirements, 41-42  
 Greek Literature, courses in, 224  
 Gynecology, courses in, 288-89

## H

Health Administration, 181-82, 367  
 Health Services, student, 181, 367  
 History:  
 Courses in, 257-61  
 Doctoral research in, 84  
 Of the University, 3-4  
 Home Economics:  
 Courses in, 262-64  
 Curriculum in, 58-59, 139  
 Home-study courses, 71  
 Honor Roll, 64  
 Honor societies, 370-71  
 Honors, 42-43, 62, 99, 109  
 Military, 43  
 Special, 43  
 Hospital, University, 8, 93  
 Hospitalization, 181, 367  
 Hours of instruction, 187  
 In the Law School, 104  
 Hygiene, course on, 202



## I

- Independent study plan, 70-71, 157
- "In residence status", 42
- Insurance, courses on, 212-13, 228
- International Law, courses on, 271, 274, 324, 325, 326
- International Relations:
  - Foreign Affairs, fields in:
    - For the Bachelor's degree, 158-59
    - For the Master's degree, 163-64
  - Master of Arts field in, 77-80
- Intern Training Program, Medical, 99
- Internship, 37

## J

- Journalism, courses in, 265-66
- Junior College, 47-62
  - Entrance requirements, 14

## L

- Labor, courses on, 228, 231, 271, 274
- Laboratory fees and deposits, 22
  - SEE ALSO courses of instruction
- Language placement examinations, 52
- Language requirements, 55
- Languages and Literatures, Division of, 68
- Latin, courses in, 224
- Latin America, courses on, 229, 232, 252, 259, 261, 324, 326
- Latin American Civilization and Culture, Columbian College major in, 73, 74-76, 226
- Law:
  - Courses in, 267-75
  - Curriculum, 109-11
  - Doctoral Research in, 85
  - Graduate Program, 111-14
  - Review, 105
  - School, 101-14
    - Entrance requirements, 16-17
- Leave of absence, 42
- Liberal Arts, College of, 63-80
- Library, 10, 43-44
  - Hours, 44
  - Law, 44, 104-5
  - Medical, 44, 94
  - Regulations, 43-44
- Linguistics, courses on, 247, 256
- Literatures and Languages, Doctoral research in, 85
- Living accommodations, 367-68
- Loan funds, 37

## Location:

- Of the School of Medicine, 9
- Of the University, 6

## M

- Major fields in Columbian College, 74-76
- Marketing, courses on, 213, 215
- Master's degrees
  - SEE Degrees
- Mathematics:
  - Courses in, 276-78
  - Doctoral research in, 85
- Mathematics and Physical Sciences, divisions of, 68
- Mechanical Engineering:
  - Courses in, 279-81
  - Curriculum in, 119-20, 123-24
- Medical Privileges, 181-82, 307
- Medical Technologist course, 100
- Medicine:
  - Postgraduate instruction in, 99
  - School of, 90-100
    - Entrance requirements, 15-16
    - Undergraduate courses in, 282-83
- Military Science and Tactics (Medical ROTC Unit), courses 286
- Musical Organizations, 372

## N

- Natural Sciences, Division of, 68
- Neurology and Neurological Surgery, courses in, 287

## O

- Obstetrics, courses, 288-89
- Ophthalmology, courses in, 292
- Order of the Coif, 100
- Organizations, student, 372-73
- Otolaryngology, courses in, 291

## P

- Pathology, courses in, 292
- Pediatrics, courses in, 293-94
- Personnel Administration:
  - Courses on, 212, 238, 281, 325, 334
- Master of Arts, curriculum in, 100
- Pharmacology:
  - Courses in, 295-96
  - Doctoral Research in, 85
- Pharmacy:
  - Courses in, 297-303

Curriculum in, 129-31  
 Examinations before state boards of, 128  
 School of, 126-33  
   Entrance requirements, 18, 57  
 Phi Beta Kappa, 370  
 Philosophy, courses in, 302-3  
 Physical Education:  
   Courses in:  
     For Men, 304-8  
     For Women, 309-13  
   Curriculum:  
     For Men, 59, 139-40  
     For Women, 59, 140-41  
   Requirements, 41  
 Physical examinations, 41, 97, 181, 304, 309, 367  
 Physical Medicine, courses in, 314  
 Physics:  
   Courses in, 315-19  
   Doctoral research in, 85  
 Physiology:  
   Courses in, 320-21  
   Doctoral research in, 85  
 Placement tests, 52, 245  
 Political Science:  
   Courses in, 322-26  
   Doctoral research in, 85  
   Portuguese, courses in, 342  
 Postgraduate Medicine, 99  
 Power option in Electrical Engineering, 122-23  
 Premedical curriculum, 15-16, 56-57  
 Preventive Medicine, courses in, 202-3  
 Prizes, 32-37  
 Probation:  
   SEE UNDER Colleges, Schools, and Divisions  
 Professional Organizations, 371  
 Property, responsibility for, 44  
 Psychiatry:  
   Courses in, 327-28  
   Doctoral research in, 85  
 Psychology:  
   Courses in, 329-35  
   Doctoral research in, 85-86  
 Public Administration:  
   Courses on, 324, 325  
   Master of Arts curriculum in:  
     General Administration, 165  
     Governmental Fiscal Administration, 165-66  
 Public Relations:  
   Courses on, 266  
 Journalism major field in, 265

Publications, student, 372

## Q

Qualifying examinations, 62, 73, 161  
 SEE ALSO IN University Calendar  
 Quality-point index, 39

## R

Radio, course on, 351  
 Radiology, courses in, 336  
 Reading Clinic, 170, 234, 237, 239  
 Records, transcripts of, 40  
 Recreation, Physical Education specialty in, 140, 141  
 Refunds, 24-25  
 Registration, 21  
 Regulations, 38-44  
   SEE ALSO UNDER Colleges, Schools, and Divisions  
 Religion, courses in, 337-38  
 Religious organizations, 368-72  
 Research, consultants in, 82-83  
 Reserve Officers' Training Corps:  
   Air Force Unit, 175-76  
   Army Medical Unit, 98  
 Residence Halls, 367  
 Residence requirements, 41  
   SEE ALSO UNDER Colleges, Schools, and Divisions  
 Resident training program, 99  
 Romance Languages and Literatures:  
   Courses in, 339-44  
   Placement examinations, 52  
 Rules of the University, right to change, 44  
 Russia:  
   Courses on, 231, 252, 258, 260, 323

## S

Sanskrit, course on, 256  
 Scholarship, 38-39, 41, 107-8  
   SEE ALSO UNDER Colleges, Schools, and Divisions  
 Scholarships, 27-32, 171  
 Scholastic Aptitude tests, 13, 52, 184  
 Schools, Colleges, and Divisions, 5-6, 45-177  
 Secretarial Studies:  
   Courses in, 345-46  
   Curriculum in, 61  
 Self-help, 68  
 Semester hour  
   SEE Credit Hour

Shorthand, courses on, 345-46  
 Sigma Xi, 370  
 Social Sciences, Division of, 68  
 Sociology, courses in, 347-49  
 Sororities, 372  
 South America, courses on  
     *See* Latin America  
 Spanish:  
     Courses in, 342-43  
     Placement examination, 52  
 Special Students, Division of, 20, 173-74  
 Speech:  
     Clinic, 350  
     Courses in, 350-52  
 Staff of Instruction, alphabetical list, xxvii-lxvi  
 Statistics:  
     Bachelor of Arts in Government curriculum in, 60-61, 160-61  
     Business and Economic, 160, 164  
     Courses in, 353-57  
     Doctoral research in, 86  
 Student:  
     Activities, 369-70  
     *See also* Special Bulletin  
     Bar Association, 105-6  
     Employment, 368  
     Life, 367-73  
     Organizations, 370-73  
     Publications, 372  
     Union, 9, 368  
 Summer Sessions, 177  
 Surgery, courses in, 358-60  
 Surveying, courses on, 221, 222  
 Suspension:  
     *See* UNDER Colleges, Schools, and Divisions

Syphilology, courses in, 225

## T

Teaching fields, 141-47  
 Theatre, courses on, 352  
 Thesis, requirements for, 42  
 Transcripts of records, 40  
 Trustees:  
     Board of, xv-xvi  
     Committees of the Board of, xviii  
 Tuition, 22  
 Typewriting, courses on, 345-46

## U

University Students, Division of, 20  
 172  
 Urology, courses in, 361

## V

Veterans Education, 183-84  
 Vocational Counseling:  
     Courses on, 330, 333  
     Master of Arts in Government curriculum in, 164-65

## W

Warnings, 55  
 Withdrawal, 24-25, 39-40

## Z

Zoology:  
     Courses in, 362-64  
     Doctoral Research in, 86







THE UNIVERSITY RECORD

SUMMER TERM 1951

FALL AND WINTER TERMS 1951-52





## DEGREES CONFERRED

## JUNIOR COLLEGE

## ASSOCIATE IN ARTS

NOVEMBER 12, 1951

Nancy Abbott		Mary Hope Hurley	N.M.
Mae Belva Alexander		John Rennolds Innes	Mo
Henry Clay Anderson, Jr.	Md.	Charles Anthony Iovino, Jr.	D.C.
Theodore Xenophon Barber	Calif.	Edwin Reicher Itynre	Md.
Thomas Mather Barnett	Va.	Lindsay Kay Jacobson	Nev.
Thomas William Beale, Jr.	D.C.	Charles Hampton Jones, Jr.	D.C.
Thomas Reilly Benedict	Colo.	Theresa Ann Jones	N.C.
Ethel Blitzstein	Ky.	Günther Karl Kessler	D.C.
Erwin Allen Bondareff	N.Y.	Harry William Kettles	D.C.
Clara Victoria Bortz	D.C.	Rhodia Marcia Keyser	D.C.
Gerald Neal Braley	D.C.	Aredis Vahan Kosjovian	Mass.
Eugenia Brandenburger	Pa.	Barbara Gouvalas Konze	Va.
(With distinction)	Md.	Herbert Louis Kotz	D.C.
Edward Baylis Britton	Va.	(With distinction)	
Keith George Britton		Francis Edward Lane	D.C.
Robert Arnold Brook	Md.	Grace Veronica Leon	D.C.
Rachel Alice Bruner	Md.	(With distinction)	
Donald Alden Buck	N.Y.	Glenn Paul Lewis	Va.
George Edward Burks	Md.	William Edmund Lind	D.C.
Alvin Cohen	Conn.	Joseph Albert Logan	Mass.
(With distinction)	Md.	Margaret Agnew Lott	D.C.
Terrell Harvey Crank	D.C.	Eugene Walper Lowe	W.Va.
(With distinction)		Mildred Mae Luers	D.C.
Herbert Lee Crosby	Va.	George Mancush	Ohio
Juan Ignacio Cuellar	Iowa	Lawrence Stephen Martin	D.C.
Carl Richard Cutright	Tex.	Eva Chris Hronopolus Maskaleris	Okl.
John Nicholas Dautight	Va.	Samson Masse	N.Y.
Robert Lee Davis	Md.	Louis Quinto Mauro	N.Y.
Bernard Richard Deschaine	D.C.	John Hilary McAuliffe	D.C.
Bert Alexys Deshaime	D.C.	Thomas Joseph McCrone	Pa.
Miguel de Echeburay	Mich.	William Ralph McKinney	Ky.
Karl Frederick Eller, Jr.	R.I.	Carolyn Wagner Meyer	Md.
Leigh Winter Edwards	D.C.	Robert Eugene Mine	D.C.
(With distinction)	D.C.	Newman Arthur Miner	D.C.
Thomas Carl Embrey	Va.	Robert Henry Morgan	Md.
Armand William Estes	D.C.	Marjorie Lee Keffler Morse	D.C.
David Robert Evans	D.C.	Genevieve Kiny Morley	Ga.
Rowland Evans, Jr.	D.C.	Lawrence Manueldes Murphy	D.C.
Albert William Febrey, Jr.	D.C.	Rosalie Eleanor Nestor	D.C.
Nancy Feyrer	Va.	Rosemary Nemer	W.Va.
Gerald Alfred Field	Va.	Charles Walton Norris	D.C.
Henry Estroge Fisher	La.	Isabel Ann O'Donnell	Va.
Eric Bert Forster	Va.	Francoise Adele Orslein	D.C.
William Donaldson Garrett	D.C.	Manuel Palau de la Vega	D.C.
Lynn Darcy George	D.C.	R. Elmo Parker	W.Va.
Bernard Giban Gletzier	D.C.	Robert Grant Pelikan	D.C.
Barbara Joan Gmeltt	Va.	Harold Lloyd Phelps	W.Va.
John Mullar Harrison	Mich.	Roger Carson Price	D.C.
Patricia Jo Haysman	Va.	Christine Hubel Purdy	Ark.
Haldis Hazel Herzog	N.C.	Ruth Elizabeth Quinlan	Mass.
(With distinction)	Va.	Thomas Hooper Rielly	Pa.
James Faulkner Henry	D.C.	Hugh Allen Riles	Va.
Walter Thomas Hewan, Jr.	Ill.	Mary Kenneth Roberts	Va.
Richard Alvin Hollenberg	Va.	Thomas Arthur Roberts	D.C.
Elmer Dean Holt	D.C.	Marjorie Virginia Rodgers	Pa.
Nancy Houston	Ill.	Mary Jane Rosenberger	Va.
Charles Raymond Howard II	Ill.	Michael Beatty Rowan	Va.
Robert Joseph Hughes	Va.	Noema Rubin	N.J.
		Richard Rueda, Jr.	

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 Sidney Saunders  
 Frances Mary Schmitt  
 George Fleming Sengstack  
 (With distinction)  
 Halbert Martland Sloat, Jr.  
 Roy Edward Snell  
 Mark Curtis Snyder  
 Charles William Stamper  
 Howard Nau Stewart  
 James Logan Stith  
 Beverly Buchanan Stormont  
 Lawson S. Stroupe  
 VanBuren Sullins  
 Dorothy Lucille Swartz  
 Albert Edward Taishoff  
 Alice Sumiko Takabuki

Puerto Rico  
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 Hawaii  
 John George Tiedemann  
 Edward Loring Tottle  
 Mary Margaret Trail  
 Rao Clinton Trail  
 (With distinction)  
 Edmund Kearny Vertner, Jr.  
 David Franklin Vick  
 Charles Wahrman  
 William John Weber  
 Irving Weisblatt  
 Wilfrid Arthur Neil Wilson  
 Ruth Conant Woolley  
 Barbara Anne Worley  
 (With distinction)  
 Rose Agnes Wurser  
 John Zolyak

## FEBRUARY 22, 1952

Maverie Florence Albert  
 (With distinction)  
 Russel Anthony Ariotta  
 John Allan Arness  
 Olawar Hassan Barakat  
 Urbino Joseph Barreira  
 Joan Baruchin  
 Anne Layton Basham  
 Barbara Louise Benner  
 Carolyn Virginia Billingsley  
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 Antonnette Bozievich  
 Helen Carley Bruin  
 Frate Bull, Jr.  
 Anne Chadwick  
 Louis Ciarracca, Jr.  
 David Olaf Close  
 John Stoddard Connally, Jr.  
 Anna Marie Cooper  
 Paul James Creamer  
 Francis Xavier Crowley  
 Darla Lee Cullen  
 Frank Cummings  
 Jennie Grace Di Caprio  
 Earl Donald Dietrich  
 William Beach Divine  
 John Frederick Douglass  
 Eleanor Louise Edlow  
 James William England  
 Luis Manuel Esparolini  
 William George Evans  
 Morton William Fischman  
 Thomas Stephan Flyzik  
 Bernard, James Fritz  
 Morton Irwin Fungler  
 Stanley Grace Goda  
 Forest Gordon  
 Julius William Greenfield  
 Robert Leonard Gutt  
 Nancy Lee Harrill  
 Richard Gerard Helminiewicz  
 Frank Hine  
 Doris Gertrude Hodge  
 Arthur Daniel Hoffman  
 William Jelts Holliman, Jr.  
 Arnold David Hooks  
 Sarah Jane Horsburgh  
 William Malcolm Hughes  
 Kenneth Jay Kern  
 Enver Moosa Koury  
 Mary Ann Landers  
 Elizabeth Mary Lane  
 Laura Cummings Larrick

D.C.  
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 Walter Julius Larson  
 Gladys Gertrude Leech  
 Gerald Franklin Lowe  
 Andrew Aatos Luhtanen  
 Marie Terese Lutz  
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 (With distinction)  
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 Anne Carter Russell  
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 Charles Edward Sandeen  
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 Nicholas Tyler Scheel  
 Jeanne Ruth Schell  
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 George Edward Somkew  
 Irving Shapiro  
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 Robert Lee Spiegler  
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 Casimer Francis Uehman  
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MAY 28, 1952

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Crystal Mae Caron			
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Ruby Chunn			
Joel Harvey Cohen			
Harrison Lee Cooper			
Bartley Alexander Costello			
Howard Donald Criswell			
Thomas Michael Joseph Crowley			
Betty Jane Daley			
Harry Mortimer Daskam			
George Michael D'Epiro			
George Deverman			
Louis Wilhelm Diamond			
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Grace Marill Domine			
David Dorfman			
Harold Joseph Dougherty			
Giles Monroe Easley			
Barbara Harriet Edelschein			
Walter William Eisenberg			
John Reaser Ellis			
Mary Bedale Ellis			
Marvon Thomas Ely			
Orville James Emory, Jr.			
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(With distinction)			
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Joan Foye Federico			
(With distinction)			
Patricia Morse Federico			
(With distinction)			
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Quinn Finta			
Fenne Fletcher			
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(With distinction)			
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Plater Tayloe Gedney			
Harry Clarence Gesenick			
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Ind.	Marilyn Ann Grandfield	N.Y.	
D.C.	Sidney Ralph Gross	Ill.	
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Va.	Earle Honey, Jr.	D.C.	
Md.	Joseph Spencer Harvey	D.C.	
D.C.	Mihrea Jelizaveta Hasalova	D.C.	
D.C.	Gertrude Marian Haugan	D.C.	
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Pa.	Robert Alfred Heintze	Md.	
D.C.	Chelsea Lucere Henson	Va.	
Md.	(With distinction)		
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Md.	Murray Louis Howder	D.C.	
D.C.	Jeanne Edith Hoyt	D.C.	
D.C.	Barbara Marie Hughes	D.C.	
Ohio	Edward James Hughes	Pa.	
Va.	Thomas Jefferson Hurley	D.C.	
D.C.	June Virginia Insoe	D.C.	
Calif.	Lloyd Edward James, Sr.	Ill.	
N.Y.	William Valentine James, Jr.	D.C.	
D.C.	Louis Wilson Jefferson, Jr.	Md.	
Maine	Josue Elizabeth Johnson	D.C.	
D.C.	Margaret Elizabeth Johnson	Md.	
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Ohio	Harvey Douglas Kaplan	D.C.	
Conn.	(With distinction)		
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Pa.	Ruth Flora Karstens	Va.	
Ill.	Jacqueline Sylvia Kaskin	D.C.	
D.C.	Sidney Kasma	N.Y.	
D.C.	Myles Charles Kaye	Md.	
D.C.	Daniel Francis Kelly	N.Y.	
Md.	Elizabeth Caldwell Kimberly	D.C.	
Md.	Bernard Peter Klonowski	N.Y.	
D.C.	Ruth Doris Koudan	D.C.	
N.J.	Michael Kohnelak	Cann.	
Ga.	Gertrude Konielenich	Ill.	
Pa.	Theodore Kranzler	N.J.	
W.Va.	William Adams Lang	Canal Zone	
D.C.	Robert Emmett LaRue	D.C.	
D.C.	Linda Leon Law	D.C.	
D.C.	Marilyn Sylvia Lebowitz	D.C.	
D.C.	Marilyn Louise Leece	D.C.	
D.C.	Robert Clinton Leubbrandt, Sr.	Kans.	
D.C.	Mary Elizabeth LeMay	N.Y.	
D.C.	Jew Chuck Lew	D.C.	
D.C.	Linda Jane Leichter	D.C.	
D.C.	(With distinction)		
D.C.	Emil Lowenthal	D.C.	
D.C.	Gerald Ross Lynch	D.C.	
D.C.	(With distinction)		
Va.	Joan Martha Marian	D.C.	
Va.	Walter Marks	N.Y.	
Md.	Frank Eugene Martin, Jr.	N.Y.	
Va.	Edward Thomas Martowicz	Ohio	
Kans.	Lonah Mason	D.C.	
N.Y.	William Alfred McClellan	Md.	
D.C.	Richard Cornwell McCollough	Md.	
N.Y.	Delzell Russell McMurray	Va.	
Va.	Gilbert Wilson McNamee	D.C.	
D.C.	(With distinction)		
Va.	Harold Faah Mentow	D.C.	
Va.	(With distinction)		

Ardo Zamar Meyer  
 Hugh Michael Miller, Jr.  
 Jane Lee Moffatt  
 James Edward Moore  
 Jesse Oran Murphey  
 (With distinction)  
 Roberta Lois Nathanson  
 William Alfred Neal  
 Jack Newman  
 Gordon Quincy Newton  
 Barbara Lee Norris  
 Nelson Oertel  
 Ernest Oikelmus  
 Donald Eugene Oppert  
 (With distinction)  
 Bettie Nan Ormsby  
 James Price Oxenham  
 Leonard Daniel Pasamanick  
 David Paulson  
 William Houston Peifer  
 Esther Elizabeth Peimann  
 Phyllis Jane Philips  
 Alton Rudolph Pittman  
 William Leonidas Pratt  
 Roy Warren Price  
 Carl Anthony Quaglia  
 Eleanor Elizabeth Rapp  
 Alan Mark Reynard  
 Margaret Robertson  
 James Arthur Robinson  
 Norma Rolpe Rohm  
 Joseph William Ryan  
 Robert Gordon St. Clair  
 Ralph Franklin Salmon  
 Kenneth Robert Samuelson  
 Philip Sanders  
 Agnes Isabel Gomez Sanderson  
 Maxine Joan Savrel  
 Joan Carolyn Schatzman  
 Gerald George Schleeper  
 Charles Sidney Schlissel  
 Gaylord John Schmitt  
 Michael Schmuckler  
 Lorenz Philip Schrenk  
 Martha Jane Suss  
 Cecile Flanke Search  
 Russell Lewis Sergeant  
 Henry Shimabukuro

Nebr.  
 D.C.  
 D.C.  
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 Tex.  
 D.C.  
 D.C.  
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 Mass.  
 Ohio  
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 Okla.  
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 Pa.  
 Ill.  
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 Ill.  
 N.Y.  
 Ill.  
 D.C.  
 D.C.  
 Tenn.  
 D.C.  
 D.C.  
 Hawaii

Walter Allen Shropshire, Jr.  
 (With distinction)  
 Elizabeth Rita Shumway  
 Marion Colling Siggers  
 Ellen Barbara Sincoff  
 (With distinction)  
 Helene Carole Sirota  
 Robert Ivar Skougaard  
 Sheila Mary Sloan  
 Sarah Velma Slusher  
 Isabel Allred Stephens  
 Jere Bart Stern  
 (With distinction)  
 Arthur Steuer  
 Louis Francis Stoppelli  
 Ann Reed Sweeney  
 Arthur Joseph Tardosky  
 Jane Miako Tashiro  
 Beverley Ellen Tester  
 Katherine De la Noy Thompson  
 Edwin Sanford Timoner  
 Valerie Davis Tinkham  
 Kumao Kenneth Toda  
 Charles Hilary Troshinsky  
 Lucy Vance  
 Stanley Charles Vinkenes  
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 Barlow Jacob Wagman  
 David Louis Waldron  
 Lloyd Arthur Waller  
 Ruth Ticknor Warren  
 Elizabeth Rouse Warriner  
 Guy Van Vorst Waterman  
 (With distinction)  
 Robert Carlyle Watson  
 Nell Weaver  
 Claire Mary Wertenbruch  
 Marjida Zeuch Whann  
 Lillian E. Willier  
 Edward Jay Wilson, Jr.  
 Jan Wyszynski, Jr.  
 Frank George Wolf  
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 Flor Alma Wright  
 Mildred Ellen Wyvill  
 Mauda Marie Yates  
 Lawrence Irving Zaroff  
 (With distinction)

## COLUMBIAN COLLEGE

## BACHELOR OF ARTS

NOVEMBER 12, 1951

James Ronald Adams  
 Dean Johnson Almy, Jr.  
 Anna Vaughan Andrews  
 Thomas Mather Barnett  
 Harry Bates Bennett  
 Edward Henry Bergstrom, Jr.  
 Charles Marion Billingsley  
 Joseph Barnows Bogan, Jr.  
 Randall Brooks  
 Beverly Hute Brox  
 Billy Wayne Cain  
 Joseph Evangelos Chrysakis  
 Jacqueline Whitmer Clouser  
 Edward Charles Connelly  
 Anne Evans Crosby  
 Martin William Cummings

W Va.  
 Md.  
 Mass.  
 Colo.  
 Md.  
 Mass.  
 Md.  
 D.C.  
 Va.  
 Va.  
 D.C.  
 D.C.  
 Va.  
 Mass.  
 Ga.  
 Conn.

John Vincent Curry  
 Elizabeth Teresa Daly  
 Gerald Allen Dathow  
 Shirley Norma Densen  
 (With distinction)  
 Margaret Dewees  
 Albert Irvin Duncan  
 Bernard Carl Eisenberg  
 Robert Arthur Elliott  
 Charles Dewey Ellison, Jr.  
 Joyce Louise Evans  
 Gerald Wadell Everett  
 Jean Stoner Fahney  
 Carl Vincent Flowers  
 Jessie Lorraine Fowler  
 Milton John Francis

Ina Ruth Friedenberg			
Gilbert Yosef Gimble	D.C.	William Moskowitz	N.Y.
Edward John Goemaat	D.C.	Diana Georgia Nicolopoulos	D.C.
Warren Gould	D.C.	Jack Ozfeld	Pa.
Herbert McCarty Graham	D.C.	Ira Hersey Pearce	D.C.
Robert Scott Harrison	D.C.	Rebecca Koonce Pecot	D.C.
Frances Gore Haynes	D.C.	Melvin Gerald Pfefferstein	N.J.
Robert Kay Jones	D.C.	Beverly Suzanne Post	Va.
Sidney Kaufman	Va.	Edwin Price	N.Y.
(With distinction)	Conn.	Hoyt Glenn Price	Va.
Alfred Howard Kaye		Youssef Bahgat Rakha	D.C.
Jodie Elise Keebler	N.J.	Geneva Standley Robinson	D.C.
Stanley Slack Kibbrell, Jr.	Md.	Mave Feuerstein Rosenthal	Md.
Lawrence Roy Kroner	Va.	William Winsor Sherwin	Va.
Bernice Edythe Laditsky	Ill.	Alvin Shuster	D.C.
Denny Virginia Lamb	N.Y.	Verna Emily Smith	D.C.
Mary Lennox	Ga.	Warren Webster Smith	D.C.
(With distinction)	D.C.	William Theodore Stephens	Md.
Harry Joseph Loughbridge		John Ulrich Tannhauser	Md.
Amelita Butler Mannetti	Va.	David Franklin Taylor	Idaho
Mary Louise Marsh	D.C.	Carl William Thomas	Mo.
James Carey Maupin	Va.	William Ormsby Ticknor	D.C.
Vincent William McGurl	Calif.	David Vernon Turnburke	D.C.
Robert Berger McHale	Pa.	Mary Johnston Turner	D.C.
Fred James McKay	Va.	Ruth Wathfield Wilson	D.C.
Audrey Rands Merritt	N.J.	(Special honors in Journalism)	
Henriette Kirk Metzertott	Va.	Edwin Charles Wood	D.C.
J. Truitt Moshring	D.C.	Charles Walter Yuill, Jr.	Md.
Earl Jay Mondschcin	D.C.	George William Zacha	Calif.
	Va.		

## FEBRUARY 22, 1952

Howard Thomas Bane			
Samuel Henry Binder	Va.	Glenn Paul Lewis	Ohio
(Special honors in Journalism)	Iowa	Bernard Lubin	D.C.
Nancy Margaret Bouscaren		William James Malloy	N.D.
(With distinction)	D.C.	Enkel Shoemaker McClellan	Pa.
Marvin Frederick Brotman	D.C.	Gerald Joseph Miller	D.C.
(Special honors in Journalism)	D.C.	Albert Edward Nevisner	D.C.
Dale Eugene Burrington	Md.	Joy M. Aree Ogden	Va.
(Special honors in Religion)		Mary Leland Olds	Mass.
Ann Hutton Burwell	Va.	Rawlin Eugene O'Leary	Utah
Victor William Camp	Md.	Charlotte Ostergren	D.C.
Marjorie Lucia Carey	Mass.	Carolyn Isabelle Powers	W.Va.
Vilma Cavallaro	D.C.	Robert Franklin Rolnick	D.C.
Wong Chuck	Hawaii	Audrey Hazel Roe	D.C.
Jocelyn Clark	Fla.	Henry Morton Sandler	Pa.
James Joseph Controy III	Md.	Rother Abrahamson Selbee	Va.
Joseph Phillip Conte	Md.	William Cliff Shney	Md.
William Harry Contos	D.C.	Marvin Mayer Skloot	N.J.
Edwin Charles Detmer	Md.	Mary Ann Smith	Va.
Justin James Denaliay	D.C.	Patricia Anne Smith	Argentina
John Frederick Donelias	D.C.	(With distinction—Special honors in Spanish American Literature)	
Miriam Weinberg Drimmer	N.Y.	Robert Kenneth Snow	D.C.
(With distinction)		Jane Summers Stanhope	D.C.
Eugene Ebert	D.C.	Marshall Eugene Stovall	Tex.
Josef Katten Elman	N.Y.	Mary Elisabeth Tew	Va.
Sydney Samjesther Gelfand	D.C.	Robert Hough Tolson	D.C.
Thomas Robert Henry, Jr.	Va.	Edward Loring Tottle	Maine
Charles Anthony Iovino, Jr.	D.C.	Mabel Oakley Traiser	Wis.
Mary Ann Yeager Iverson	D.C.	Taven Vangdal	Siam
Phyllis Eileen Jacob	Mass.	Charles Wahrman	D.C.
Teresa Mary Koster	Md.	Michael Gerald Walker	N.J.
Herman Kravetz	Va.	Robert Oscar Wells, Jr.	Mich.
William Josselyn Lawless, Jr.	N.Y.	John Bernard Whalen	Va.
(With distinction)	Pa.	John Russell Wiggins	D.C.
Edmund Wallace Lawrence		Joseph Fred Winkler	Md.
Thomas Cullen Leffingwell			



May 28, 1952

Charles Martin Aaronson (With distinction)	D.C.	Jack Walter Hurkett
David Warren Abram III	D.C.	Mary Hope Hurley
Evelyn Louise Atlas	D.C.	Carol Jones Hutcherson
Grace Chopola Basinger (With distinction)	D.C.	Sarah Ellen Ingersoll
Lavonia Frances Ball	Ky.	John Henry Jareschke, Jr.
Christopher Conkling Barnekov	D.C.	Margaret Pennington Johnson
Joan Barry	D.C.	Mylos MacCrimmon Johnson
Christian William Beilstein	D.C.	John Michael Carl Kaduk
Florence Bernice Berger	D.C.	Lyman Coolidge Keatts
Joan Zelda Boyer	D.C.	Donald Swift Kellam, Jr.
Keith George Brinson	Ill.	Daniel Francis Kelly
Rachel Alice Brouner	Mass.	Arthur David Kelso, Jr.
Frank Pace Burton	Md.	Burton Kerish
Robert Elizabeth Burgess	D.C.	Martha Vaughn Kidday
Margaret Elizabeth Fustle Campbell	Calif.	Joan Elizabeth Kuehl
Frances Samuel Caracciolo	Mo.	Phyllis McCormick Knowles
Elizabeth Cassey Carter	Va.	John Edward Kraller
Jeanne Audrey Cleary	D.C.	Mary Anne LaCours
Thomas Charles Cook	Va.	(With distinction)
Milton Henry Cole	D.C.	Robert Emmett LaRue
(With distinction)	Calif.	Elizabeth Burton Levering
Robert Wilson Coll	Md.	Arnold Seymour Levinson
(With distinction)	D.C.	Donald Wolfe Liel
Frances Rowena Cook	Ark.	Virginia Ruth Lidenkamp
Robert Wayne Craft	D.C.	Hubert Whitman Lilliefors
Nancy Roberta Cross	Md.	Nancy Catherine Long
John David Crummett	D.C.	Edmund Herman Longen
Joseph Daniel Cullen	D.C.	Elizabeth Butler MacGowan
(Special honors in Journalism)	D.C.	Raymond James Malloy
Carol Jane Cunningham	D.C.	Leontine Sutherland Marshall, Jr.
Lucia Conchita Darte	D.C.	John Peter Martin
Mary Ann D-Maria	Pa.	Watt Nicholas Martin
Sally Rosebene Doelger	R.I.	Frederick Linwood Marvil, Jr.
Glenn Elizabeth Dudley	Va.	Moore Marsh
Theodore Edward Edelschein	Va.	John Hilary McAuliffe
Jennifer E. Emerson	D.C.	Cristina Jackson McGrew, Jr.
Roberta Anne Ellis	Md.	Paul Edmund McNulty
Edward Engel	Md.	Harold Francis Merkle
Hazel Shepardon Fackler	D.C.	Cecilynn Ann McKelsen
(Special honors in Journalism)	D.C.	Thomas Albert Mickler
Harry James Falkenberg	N.J.	Carolyn Ann Miller
Thelma Sallie Faragher	D.C.	Newton Arthur Miner
Leah Levine Feingold	D.C.	Sophia Couch Minor
Ralph Miles Feller	N.Y.	Robert Emmett Moran, Jr.
David Benson Feldman	Va.	Margaret Lee Keiffer Morse
Patricia Joan Fenlon	D.C.	Helen Marie Mullin
William Walter Fink, Jr.	N.J.	Leona Limes Nagy
William John Fingerty	D.C.	Frances Louanne Naquin
Elizabeth Hale Gallup	N.J.	Raymond Martin Nelson
Betty Lee Gerlach	D.C.	Myrtine Carrine Parr
George John Gillespie	Md.	Harvey Wayne Peterson
Annette Davis Goldbaum	D.C.	John Roslerick Pierce
Emil Edgar Grasser, Jr.	D.C.	Anita Porro Pirsch
William Mason Gray	Pa.	Vivian Levy Pollock
Gayle Marianne Greenwood	D.C.	Rose Armas Renick
Leo Grey	Pa.	Patricia Shannon Rice
(With distinction)	Md.	James Augustine Richardson, Jr.
Lou Ann Hall	Va.	Mary Ellen Rebel
(With distinction)	D.C.	James Franklin Roberts
Jillian Hanbury	D.C.	Guy Harold Robinson, Jr.
Ralph Merrill Hanneman	D.C.	Ina Barbara Rosenberg
Jonas Henry Hawkins, Jr.	Neb.	(Special honors in Journalism)
Ruth Eleanor Higgins	D.C.	Mary Jane Rosenberger
Shirley Rose Hodges	D.C.	Vivian Carmel Roseman
Joan Priscilla Holmstrom	Va.	William Dennison Rowan, Jr.
Harold Horwitz	Mass.	Margaret Esther Royce
Ann Shearer Hudgins	N.Y.	Carolyn Lamar Sample
Lucian O. Hunter, Jr.	N.Y.	Marilyn Jane Sancljwick
Nancy Elizabeth Hunter	Ky.	Nancy Nell Saunders
	Vt.	(With distinction Speech)

# Degrees Conferred

393

Charles Lewis Schocket		Lowell Stanley Swartzell	D.C.
Lorraine Mabel Schocket	Md.	Myron Samuel Thomsen	D.C.
Walter Edmund Sear	Md.	(With distinction)	
B.Mus., 1951, Curtis Institute of Music	N.Y.	Julius Stephen Tuth	N.J.
Arthur Arden Schachner		Harriet Oxford Turner	Va.
Irving Shapiro	N.Y.	Joan Pinckney Wheeler Vest	Md.
Elizabeth Shaw	N.Y.	Frederick Gregory Vogel	Conn.
Judith Hall Shreve	Md.	Kristalle Vonagars	D.C.
Barbara Tanquary Shugart	Va.	Nancy Hopston Wallack	D.C.
Allen Milton Sawyer	W.Va.	Arnold Jerome Walnut	N.J.
Hubert Matland Sloat, Jr.	D.C.	June Dabitz Walton	D.C.
Betty Jane Watt Smith	D.C.	Robert Vernon Wasson	Calif.
Carolyn Mary Smith	D.C.	Ivonne Weisblatt	D.C.
Wendy Sue Staehura	D.C.	Martin Louise Willett	Md.
Nancy Reynolds Stevens	Va.	James Frederick Wilson	D.C.
(Special honors in Speech)	Va.	George Raymond Womeldorf, Jr.	Va.
Joyce Bell Stevenson	Va.	Samuel Yates	Md.
Genevieve Ruffner Stirling	D.C.	Joanna Zeigler	Va.
Horace Edwin Story	D.C.	Faye Zornand	D.C.
Roy Eugene Sweeney, Jr.	N.J.	(With distinction—Special honors in Psychology)	

## BACHELOR OF SCIENCE

NOVEMBER 12, 1951

Adrian Clarke		Morris Klein	D.C.
Norma Elizabeth Dreszer	Md.	Robert Wendell Link	N.J.
Arleigh William Green	Md.	John Sheridan Tolliver	Md.
Edward Walter Jylka	Mass.	Joseph Benjamin Yarbrough III	D.C.

FEBRUARY 22, 1952

Louis Joseph Barbieri		Ulric Hubert Reinard	Va.
Rozalia Mercedes Buonomo	Puerto Rico	Ian Kenneth Ross	D.C.
Lila Ruth Lament	D.C.	Anna Belle Sauvour	Va.
(With distinction)		Calvin Michael Spessard, Jr.	Md.
Frederick James Gleason, Jr.	D.C.	Niki Spiliotis	D.C.
Edwin Ira Goldenthal	D.C.	Arnold Martin Toxen	D.C.
Serann Lawrence Guerra	Mass.	(With distinction)	
Franklin Dean McLendon	Va.	Thomas Lanier Zapf	D.C.
Anthony Roland Pagano	N.Y.		

MAY 28, 1952

Stanley Morris Biulek		Mary Lou Morrow	Pa.
Vincent Alexander Ciavarra	Md.	Richard Ira Myers	Md.
Walter Nevins Cottrell	N.J.	Stamus Cleovoulos Myrianthopoulos	D.C.
Howard MacDonald Day	D.C.	John Phelps Nobel	Pa.
Henry Andrew Droll	D.C.	Charles Walter Nossis	D.C.
Karl Frederick Fuller, Jr.	N.Y.	Stephen S. Pappas	D.C.
Paul Emanuel Fuschel	Va.	Arthur Jack Pell	D.C.
Howard Wentworth Fieger, Jr.	Venezuela	Virginia Briggs Peters	Md.
Don Stutler Harmer	D.C.	Jerome Raphael Pomerantz	N.J.
William Penn Harris, Jr.	D.C.	Bernard Raymond Rappaport	Id.
(With distinction)		Burton Louis Raymond	Mass.
Joseph Francis Irzuma	N.J.	Patricia Amelia Reynolds	Md.
Barbara Tanaya Jacobs	D.C.	Mara Natalie Rosenthal	D.C.
Armen Theodore Keil	D.C.	Zelmira Maria Sanchez	Puerto Rico
Myrleed Mattha King	Va.	Joseph Raymond Scott, Jr.	Va.
Dorothy Lee	Conn.	Sharon Madelaine Spector	Md.
Bernard McKenzie Leese, Jr.	D.C.	Clarence Francis Sywed	Pa.
Edward Ian Liane	Va.	Howard Walton, Jr.	D.C.
(With distinction)	China	Max Ludwig Weissmann	D.C.
Judith Agnes Mackensen	D.C.	Harry Wesley Wilhelm	D.C.
Barbara Elizabeth Mills	Va.		

## MASTER OF ARTS

NOVEMBER 12, 1951

Roy L. Alexander, Jr. A.B. 1948, Duke University	N.J.	Ruth Stevenson Jackson A.B. 1948, The George Washington University	D.C.
Helen Alexandra Ashby B.S. 1937, Northwestern University	Ind.	Claire Tajen Machlin A.B. 1947, Hunter College	Ma.
John Sibley Brand A.B. 1947, University of North Carolina	D.C.	Leila Padgett Moran A.B. 1946, Hood College	D.C.
Oril Irene Brown B.S. in J. 1930, Northwestern University	Va.	B.S. in L.S. 1947, Drexel Institute of Technology	D.C.
Louis Michael Chauvette A.B. 1949, Catholic University of America	Mich.	Kenneth Freeman Mosman A.B. 1951, The George Washington University	Geor.
William Timothy Collins A.B. 1948, The George Washington University	N.Y.	Stylianios Demetrios Protonotarios B.S. 1951, Wagner College	Ala.
Virginia Anna Duggins A.B. 1942, Sweet Briar College	Va.	Ann Elizabeth Ratagick A.B. 1950, Alabama State Teachers College, Florence	Miss.
Betty Trump Ehrenreich A.B. 1950, The George Washington University	Fla.	Malcolm Higgins Robertson A.B. 1948, University of Minnesota	D.C.
Charles Robert Eigenbrode A.B. 1946, Lebanon Valley College	Ma.	Joseph Hiram Roe, Jr. A.B. 1950, Yale University	D.C.
Beatrice Graham Espey A.B. 1928, University of Nebraska	Md.	Saul Rosenthal A.B. 1949, Catholic University of America	D.C.
Robert Elden Esterley A.B. 1950, Macalester College	Minn.	Gustav Adolph Sallas A.B. 1950, The George Washington University	Ma.
Marilouise Fisher A.B. 1946, The George Washington University	Pa.	Thomas Russel Scanlan, Jr. A.B. 1949, The George Washington University	N.Y.
Melvin A. Gravitz A.B. 1950, The George Washington University	D.C.	Gilbert Marvin Trachtman A.B. 1949, Brooklyn College	Ma.
Elizabeth Toupaz Harrison A.B. 1950, The George Washington University	Md.	Eric Waldman A.B. 1950, The George Washington University	Tn.
Charlotte Rebecca Hess B.S. 1945, Temple University	D.C.	Robert Burns Williamson A.B. 1947, University of Texas	
A.B. 1950, The George Washington University			

FEBRUARY 22, 1952

Frank Convery Cameron A.B. 1932, University of Michigan	Pa.	Cleo Michelsen A.B. 1944, The George Washington University	Ma.
Agnes Profitt Carpenter A.B. 1945, DePauw University	D.C.	Hyman Orlin B.B.A. 1942, College of the City of New York	D.C.
Sidney Friedman A.B. 1939, Brooklyn College	N.Y.	A.B. 1948, The George Washington University	Ma.
Anne Carter Funk A.B. 1949, Florida State University	Pa.	David Willard Rodgin A.B. 1949, Yale University	N.Y.
Walter Andrew Gentner A.B. 1950, The George Washington University	D.C.	Roger Alan Scherff A.B. 1950, The George Washington University	Va.
Norbert L. Greenwald B.S. 1945, Johns Hopkins University	D.C.	Howard S. Stern B.S. 1950, Brooklyn College	
Leo Hellerman B.F.E. 1946, College of the City of New York	N.Y.	Robert Watson Sylvester A.B. 1951, The George Washington University	
William Alexander Kohmann A.B. 1949, Southern Methodist University	Va.		



## MAY 28, 1952

Joseph Becker A.B. 1949, The George Washington University	D.C.	Harry Kaplan A.B. 1948, The George Washington University	Ill.
Chester Lee Callander A.B. 1940, University of California	Md.	David Renwick Kerr A.B. 1914, Columbia University	Va.
Robert Martinez Cervantes A.B. 1949, The George Washington University	N.Y.	Walter Aaron Klieger A.B. 1948, The George Washington University	D.C.
George Chase A.B. 1948, The George Washington University	D.C.	Chester Hayden McCall, Jr. A.B. 1950, The George Washington University	Md.
M.S. in L.S. 1950, University of Illinois		Janet Beverly McDowell A.B. 1950, The George Washington University	Md.
Francis Lathrop Cima B.S. 1950, The George Washington University	D.C.	Clara Meyerson A.B. 1943, University of Michigan	N.J.
Jack Ross Cooper A.B. 1948, Queen's University	Md.	Richard Ernest Murphy A.B. 1943, St. Lawrence University	Md.
William Bradley DeWitt A.B. 1948, Howard College	Md.	Doris Morgan Olaszewski A.B. 1949, The George Washington University	Md.
Helen Reid Gulbrandson A.B. in Ed. 1938, The George Washington University	D.C.	Muriel Hope Parry A.B. 1946, University of Illinois	N.Y.
Barbara Hanby Henshaw A.B. 1948, The George Washington University	Md.	Charles Henry Rapp A.B. 1948, The George Washington University	Pa.
Mary Elizabeth Lyddane B.S. 1953, Columbia University	D.C.		
A.B. 1950, The George Washington University			

## MASTER OF SCIENCE

## NOVEMBER 12, 1951

Leonard L. Berkan B.S. 1949, The George Washington University	N.Y.	Francis Lincoln Lambert B.S. 1949, The George Washington University	D.C.
Henry Stephen Brenman B.S. 1950, The George Washington University	N.J.	David Walker Lum B.S. 1949, The George Washington University	D.C.
Joel Bernard Caplan A.B. 1949, State University of Iowa	D.C.	John Edward Malligo A.B. 1950, Catholic University of America	Pa.
Frank Perry Donnelly A.B. 1947, University of Alabama	Ala.	William Everett Maloney B.S. 1950, The George Washington University	Mass.
Maria Louisa Izasson B.S. 1950, The George Washington University	D.C.	John Gilbert Palmer A.B. in Ed. 1950, The George Washington University	Md.
Charles Everett Dilla B.S. 1948, North Dakota State College	N.D.	Stephanie Czech Rader A.B. 1947, Cornell University	N.Y.
Robert Jack Downa B.S. 1950, The George Washington University	Okla.	Samuel Reanick B.S. 1951, The George Washington University	Md.
Gabriel Leblan B.S. 1949, The George Washington University	Md.	Max Rosenberg A.B. 1949, Hunter College	N.J.
John Louis Evans A.B. 1947, Lehigh University	Pa.	Samuel Michael Schreiber B.S. 1950, The George Washington University	Mich.
Edward Louis Galois B.S. 1950, Rutgers University	N.J.	Morgan Swann Seal B.S. 1950, The George Washington University	Va.
Edward Jackson Gloyer B.S. 1949, The George Washington University	Va.	John Elmer Shannon, Jr. B.S. 1948, Philadelphia College of Pharmacy and Science	Md.
Henry Samuel Goldstein B.S. 1948, Roseauke College	N.Y.	Robert Stanley Shepard B.S. 1950, The George Washington University	Iowa
Jorge Antonio Gonzalez Sapia B.S. 1950, Superior College	Puerto Rico		
Reuben Elliott Grantham B.S. in E.F. 1942, Purdue University	Md.		
Rosemary Ruth Hein A.B. 1947, Carleton College	D.C.		

## FEBRUARY 22, 1952

William Bondareff  
B.S. 1951, The George Washington  
University  
Claude Ivo Coffey  
B.S. 1950, American University  
Maryjane Katherine Cook  
B.S. 1949, College of William and  
Mary  
Sidney Futterman  
B.S. 1950, The George Washington  
University  
Beatrice Kallman  
B.S. 1948, The George Washington  
University  
Charles Kingsley Levy  
B.S. 1948, The George Washington  
University  
Laura Marley Phillips  
B.S. 1951, The George Washington  
University

Md. Solomon Leonard Pollack  
B.S. 1936, College of the City of  
New York  
D.C. Elbert Belmont Roberson, Jr.  
B.S. 1949, The George Washington  
University  
Va. Henry Roberts, Jr.  
B.S. 1950, The George Washington  
University  
Md. Jack Leopold Rossen  
B.S. 1951, The George Washington  
University  
N.Y. Robert Malcolm Stewart  
B.S. 1947, California Institute of  
Technology  
D.C. Deems Norwood Wiggs  
B.S. 1950, The George Washington  
University  
D.C.

D.C.

D.C.

N.J.

D.C.

Calif.

N.C.

## MAY 28, 1952

Carl Boyars  
B.S. 1940, College of the City of  
New York  
Seymour Friedberg  
A.B. 1948, New York University  
George Benedict Magin, Jr.  
Ernest Glenn McDaniel  
A.B. 1936, Fairmont State College  
Marriner Krumm Norr  
B.S. 1947, The George Washington  
University  
Vincent Rocco Nuzzo  
B.S. 1950, Georgetown University

Md. Victor William Rodwell  
B.S. 1951, Wilson Teachers College  
N.J. Stanley Bernard Rosendorf  
B.S. 1948, University of Maryland  
Tenn. Gertrude Marie Sheva  
A.B. 1950, College of Wooster  
Md. Parkhurst Alan Shore  
A.B. 1949, The George Washington  
University  
Va. Ernest Lyman Weise  
B.S. 1939, The George Washington  
University  
N.Y.

England

Md.

Pa.

Md.

D.C.

## THE SCHOOL OF MEDICINE

## DOCTOR OF MEDICINE

## MAY 28, 1952

Robert Alexander Barnett  
A.B. 1949, The George Washington  
University  
Bruce Ben Bellomy  
Roger Heaner Bergstrom  
Thales Bowen, Jr.  
A.B. 1949, The George Washington  
University  
Neal Caldwell Brady  
B.S. 1947, Western Reserve University  
Robert James Brennan  
A.B. 1949, The George Washington  
University  
Robert George Brewer  
A.B. 1948, Hamilton College  
George Lafayette Carr  
Philip Clinkston  
B.S. 1942, University of Michigan  
M.S. 1948, The George Washington  
University  
Fenwick Earl Cole  
Michael Anthony Corrado  
A.B. 1949, The George Washington  
University  
Leonard Joel Corwin  
B.S. 1947, Rutgers University  
Raymond Laverne Coultrip, Jr.

Md. Thomas McLellan Davis, Jr.  
A.B. 1949, The George Washington  
University  
Va. John Benedict Doyle, Jr.  
A.B. 1948, University of California  
Md. at Los Angeles  
D.C. Harold Norris Eccleston, Jr.  
Wilfred Russell Ehlmantraut  
B.S. 1948, University of Maryland  
Calif. David Eilenberg  
A.B. 1949, The George Washington  
University  
Va. Harry Hughes Ennis  
A.B. 1948, Brigham Young University  
Md. Clarence Edward Everhart, Jr.  
B.S. 1948, Western Reserve University  
Ga. Boyd Joseph Farr  
Jesse Alan Federle  
A.B. 1949, The George Washington  
University  
Mich. Robert Ferree Feltman  
(With distinction)  
A.B. 1949, The George Washington  
University  
Fla. Donald Joseph Fernbach  
A.B. 1948, Tusculum College  
N.J.  
D.C.

D.C.

Calif.

Md.

Md.

N.J.

Utah

Ohio

Utah

Neb.

Va.

N.Y.

# Degrees Conferred

397

Milton Arlo Foor A.B. 1947, University of Southern California	Calif.	Woodrow Harold Pickering A.B. 1940, Ohio State University	Ohio
Frederick Patrick Gargano (With distinction) B.S. 1947, The George Washington University	N.J.	Donald Kay Pine A.B. 1949, The George Washington University	Va.
Abraham Isaac Gimble B.S. 1941, M.S. 1948, The George Washington University	D.C.	Julius Samuel Piver B.S. 1948, The George Washington University	D.C.
Gloria Swanson Godbey A.B. 1949, The George Washington University	D.C.	Ray Earl Plymyer B.S. 1948, Pennsylvania State College	Pa.
James Kerke Gordon A.B. 1949, The George Washington University	D.C.	Stanley Eugene Potter Raymond Edward Rapp, Jr. B.S. 1948, The George Washington University	W. Va. D.C.
William Oliver Green, Jr. A.B. 1949, The George Washington University	Va.	Melvin Stanley Rosenthal A.B. 1949, The George Washington University	D.C.
William August Hagen, Jr. A.B. 1948, Hiram College	D.C.	Frank Joseph Rowe John Harmer Sager A.B. 1946, Princeton University	N.J. D.C.
Alan Hall (With distinction) A.B. 1949, The George Washington University	Ohio	Lavane Earl Sansum A.B. 1947, University of California	Calif.
Gregory Thomas Henery A.B. 1949, The George Washington University	N.J.	Andrew Gerhard Sathe B.S. 1950, University of North Dakota	N.D.
Charles Eldon Higbee Doris Marcelle Honig A.B. 1944, Hunter College	D.C.	Theodore Arthur Schultz B.S. 1949, Capital University	N.Y.
Richard Edwin Hunton (With distinction) A.B. 1949, The George Washington University	N.M. N.Y.	Frederick Herman Shipkey, Jr. B.S. 1950, University of Nebraska	Nebr.
Harvey Wylie Johnston B.S. 1949, University of North Carolina	D.C.	Stanley Melvin Silverberg B.S. 1948, The George Washington University	D.C.
Horace Eskew Kerr A.B. 1949, The George Washington University	N.C.	Robert Roy Sprowell A.B. 1948, Denver University	Wyo.
Francis Carlyle Kirchner B.S. 1949, The George Washington University	N.C.	Anson Hutchinson Stage Robert William Stahl A.B. 1948, Gettysburg College	Va. Pa.
Robert Luane Knapp, Jr. A.B. 1948, The George Washington University	D.C.	James Henry Stalling, Jr. A.B. 1948, Duke University	D.C.
Paul Raymond Mayberry A.B. 1948, Albion College	Md.	Harry Clay Stamey A.B. 1948, The George Washington University	Pa.
John Harbeck Meeker, Jr. A.B. 1940, Drew University	Va.	Allan Hugh Stewart James Arthur Stokes Charles Albert Stump (With distinction) A.B. 1948, University of Pennsylvania	Calif. Fla. W. Va.
Arthur Donald Merritt A.B. 1949, The George Washington University	Maine	Paul Augustus Thomas, Jr. B.S. 1948, The George Washington University	Pa.
Kirk Oliver Metzger A.B. 1948, The George Washington University	Mich.	Elijah White Titus, Jr. Richard Carlton Tripp A.B. 1947, University of Iowa	D.C. Iowa
Maurice Myles Miller A.B. 1948, The George Washington University	N.J.	John Bernard Umhau, Jr. A.B. 1949, The George Washington University	D.C.
John George Monyak B.S. 1949, Geneva College	N.C.	Howard Robert Unger (With distinction) A.B. 1949, The George Washington University	Pa.
Charles Calvin Morledge Oliver Adolph Muhonoom A.B. 1947, University of Minnesota	Minn.	Charles George Vivion, Jr. Richard Dean Waldorf A.B. 1948, University of South Dakota	Wyo. S.D.
George D. Oakley A.B. 1948, University of Hawaii	Mont. Minn. Md.	Marc Lee West B.S. 1948, The George Washington University	D.C.
Henry Walter Pemberton A.B. 1947, Amherst College	Hawaii	David Colwell Wherry A.B. 1948, The George Washington University	Nebr.
Lawrence Vince Phillips A.B. 1949, The George Washington University	Minn. D.C.	Roger Donald Whitehead Francis deSales Wondrich B.S. 1945, Harvard University	Calif. D.C.



## THE LAW SCHOOL

## BACHELOR OF LAWS

NOVEMBER 12, 1951

Robert James Annis	Mich.	William Carl Gaus	Pa.
Oliver Leo App	Wis.	A.B. 1949, Bucknell University	
Robert Frederick Ashley	Tex.	Audrey Dooling Ghizzoni	W.Va.
John Miller Ault	Va.	A.B. 1948, Catholic University of	
Fred Hubert Barton	D.C.	America	
Norman Baum	Va.	Edward Lee Gilmore	N.Y.
A.B. 1948, Bucknell University		A.B. 1949, West Virginia University	
Eugene Louis Bernard	Ohio	Robert M. Graham	Mass.
A.B. 1949, Ohio State University		B.S. 1950, American University	
Frank Lloyd Bowring	Wyo.	Robert A. Green	Mich.
Malcolm Strode Bradley	Ind.	A.B. 1942, Clark University	
B.S. in M.E. 1948, Purdue University	W.Va.	B.S. 1948, University of Michigan	
James Fogelson Brooks		Nathan David Grundstein	Ind.
A.B. 1949, Marshall College	Md.	A.B. 1935, M.S. 1936, Ohio State	Ark.
Benjamin Franklin Brown III	Ark.	University	
Martin John Brown	Ind.	William McRae Hauck	D.C.
B.S. in Ch.E. 1948, Purdue University		Marion Steele Hays	
Richard Bushnell	Calif.	A.B. 1948, University of Arkansas	N.C.
B.S. in M.E. 1948, Purdue University		Ruth Joyce Hens	
Robert Addison Carr	Pa.	A.B. 1949, University of Maryland	
B.S. in J. 1952, Ohio State University	La.	Francis Dewey Heyward	Pa.
Fredrick Isaac Charles	D.C.	A.B. 1938, University of North	
Joe Young Chennault		Carolina	
Robert Chin		Frank Joseph Holzman	Hawaii
A.B. 1949, The George Washington		A.B. 1949, Muhlenberg College	
University	N.J.	George Paulet Holt	N.M.
Edwin Collier		A.B. 1949, University of Hawaii	
A.B. 1949, The George Washington	Va.	Wilson Patrick Hurley	D.C.
University		B.S. 1945, United States Military	
Robert Franklin Custard		Academy	N.Y.
B.S. in Eng. 1950, The George	D.C.	Alan Stanton Hutchinson	
Washington University		B.S. 1948, St. Martin College	Pa.
Wesley DeBruin		Edward Richard Hyde	
B.S. in E.E. 1946, Illinois Institute	Hawaii	B.S. in E.E. 1948, Purdue University	
of Technology	Md.	Joseph Francis Jaskiewicz	Hawaii
John Rollin Desha II	N.J.	A.B. 1949, The George Washington	
Harold C. Dedling		University	Mich.
Joseph Michael DiMona	D.C.	Shigeto Kanemoto	
A.B. 1947, Duke University		A.B. 1949, University of Hawaii	Mich.
Donald Richard Duncan	R.I.	Irving Kantor	Tex.
A.B. 1948, Ohio State University	S.C.	A.B. 1941, University of Michigan	N.J.
Robert Giles Dunphy		William Robert Kearney	Mich.
Richard Green Dusenbury		Harold Grant Kennedy	
A.B. 1946, University of South	Mass.	Murray Abraham Kivitz	Mich.
Carolina		B.S. 1949, New York University	
Jean Ferguson Dwyer		John Frank Learman	Mich.
A.B. 1948, The George Washington	Mo.	B.S. in M.E. 1949, University of	N.J.
University		Michigan	
Thomas Gilmore Dyart		Patricia Lattimer Learman	
B.S. in M.E. 1943, University of	Md.	A.B. 1949, West Virginia University	
Missouri	Md.	Harry Levy	
Stephen Lyons Elliott		B.S. in M.E. 1941, Cooper Union	Va.
Walker Williams Evans	Tex.	B.S. in M.E. 1936, New York University	
B.S. 1939, Presbyterian College		M.S. 1946, Stevens Institute of	Va.
Urban Hart Faubion	Ga.	Technology	
B.S. in E.E. 1948, University of Texas	Va.	Eric Linbol	
Robert Bennett Ferrell		A.B. 1949, University of Rochester	Va.
Warren Elroy Finken		Elizabeth Berkeley Lockhart	
B.S. in M.E. 1948, University of	D.C.	A.B. 1937, College of William and	Va.
Wisconsin	N.C.	Mary	
Louis Flax		Leonard Luther Lonas, Jr.	Mo.
B.S. 1941, University of Maryland		B.S. 1947, Virginia Military Institute	
William Freedman		Elmer Eugene Luther	
B.S. in M.E. 1945, Duke University	Va.	A.B. 1949, The George Washington	
Harlan Edwin Freeman		University	

# Degrees Conferred

399

Thomas Archie Martin A.B. 1949, The George Washington University	Ill.	Gerald Hamilton Ragsdale A.B. 1938, State University of Montana	Mont.
Arthur Richard Mattson, Jr. A.B. 1950, The George Washington University	D.C.	Paul Donald Ring Lewis Ross Roberts Alan Conrad Rose	N.C. Md. N.J.
Roe David McBurnett, Jr. B.S. in E.E. 1944, Georgia Institute of Technology	Tenn.	B.S. in Physics 1944, B.S. in Bus. and Eng. Adm., 1947, Massachusetts Institute of Technology	N.Y.
John Bennett McDaniel B.E.E. 1946, University of Louisville	Ky.	Gersten Sadowsky B.M.E. 1947, College of the City of New York	N.Y.
Charles Graham McLean A.B. 1948, The George Washington University	N.C.	James K. Scarborough A.B. 1949, The George Washington University	Miss.
Clovis Fred McSoud A.B. 1949, A.M. 1950, The George Washington University	Okla.	Robert Colgan Schmertz, Jr. B.S. 1943, Princeton University	Pa.
Joseph Jackson Mercer, Jr. A.B. 1948, Emory University	Ga.	Robert Edgar Shank Sidney Shindell	Md. Conn.
Paul James Mohr B.E. in M.E. 1948, Yale University	N.Y. Conn.	B.S. 1944, Yale University M.D. 1946, Long Island College of Medicine	
Robert James Mooney Jesse Myatt Moore B.S. in C.E. 1940, Purdue University	Ark. Ill.	Edward Frederick Sloane A.B. 1950, The George Washington University	Md.
Edwin Starkey Nail Anthony Noone Robert Francis Olmert	Okla. Calif. D.C.	Grover Lee Small A.B. 1949, University of Maryland	D.C.
Theris Constantine Pallas B.S. in I.E. 1948, Washington University	Mo.	Edward Solomon, Jr. A.B. 1949, Pennsylvania State College	Pa.
Nicholas Anthony Pandiscio B.S. in Ch.E. 1947, Northeastern University	Mass.	John Broadus Sowell B.M.E. 1948, Georgia Institute of Technology	Ga.
Frank Theodore Peartree A.B. 1949, William Jewell College	N.J.	Bernhard Ray Swick B.S. 1947, University of Wisconsin	N.Y.
Charles David Peterson A.B. 1948, Harvard University	Maine	Ralph Leslie Thomas B.E.E. 1947, University of Louisville	Fla.
Ron George Porter Met Ray Poston B.S. 1943, University of Chattanooga	Utah Va.	Conrad Warden Thompson, Jr. B.S. 1948, Marshall College	W.Va.
James Francis Prendergast A.B. 1948, Lafayette College	Pa.	Ralph M. Tucker Philip Lambert Warner	Nev. Va.
Richard C. Quesser B.S. in E.E. 1937, New York University	Va.	A.B. 1948, American University	Tex.
Warren Dale Quesenadt A.B. 1950, The George Washington University	Va.	June Ray Welch A.B. 1950, Texas Christian University	Va.
		Charles Warren Whitmore M.D. 1947, University of Virginia	Md.
		David Morris Wortman A.B. 1948, The George Washington University	

## FEBRUARY 22, 1952

Elmer Sanford Albritton, Jr. B.S. in Ch.E. 1947, Northwestern University	Calif.	Pascal Joseph Danilowicz A.B. 1948, Wilkes College	Md.
George Clifton Artell, Jr. A.B. 1948, University of Minnesota	Pa.	Lewis Delasos A.B. 1948, The George Washington University	D.C.
Alan Irwin Bankin A.B. 1949, Pennsylvania State College	D.C.	Norman Ross Doe A.B. 1948, Marshall College	Mass.
Jerome Philip Bloom B.S. in M.E. 1947, Wayne University	Pa.	Jordan Albert Dredus A.B. 1949, Harvard University	Va.
Howard Moore Bollinger B.S. 1948, M.S. 1947, Massachusetts Institute of Technology	Mich.	Saul E. Drummer B.S. 1940, The George Washington University	N.Y.
M.B.A. 1948, Harvard University	Md.	William Joseph Driver B.B.A. 1941, Niagara University	Va.
John Paul Campana B.S. 1943, Pennsylvania State Teachers College, Marshfield	Pa.	Dorothy Dunn A.B. 1945, University of Nebraska	Nebr.
George Henry Clark B.S. 1944, The George Washington University	Md.	Calvin George Dworschak John Anthony Finkin	Idaho Va.
William Martin Creedy A.B. 1949, Duke University	Md.	B.S. 1947, M.S. 1948, University of Wisconsin	
		Stephen Edward Fleck B.S. 1939, Thiel College	Pa.

Conrad Archilles Fontaine A.B. 1949, Syracuse University	N.H.	Theodore Arnold Miller Sumino Nakashima	Pa. Hawaii
Norman Friedman B.M.E. 1945, College of the City of New York	N.Y.	Kenneth Wells Parkinson A.B. 1950, The George Washington University	D.C.
Joseph Donald Gelb B.S. 1950, University of Scranton	Pa.	Elena Victoria Perry A.B. 1948, Hunter College	Va.
Herman Jacob Gordon B.S. in E.E. 1948, Purdue University	Ill.	John Randolph Pherson A.B. 1948, The George Washington University	N.C.
John Francis Grimes Albert John Grumling	Va. Pa.	Jacqueline Pools A.B. 1944, Mary Baldwin College	Ohio
Sam Ross Harshbarger A.B. 1949, West Virginia University	W.Va.	William L. Powers A.B. 1920, Princeton University	D.C.
David Howard Henretta A.B. 1949, The George Washington University	Va.	Robert Nelson Price A.B. 1948, Haverford College	Va.
Richard Hildreth A.B. 1951, The George Washington University	D.C.	Hallie Mae Reed A.B. 1937, The George Washington University	Va. Md.
Ernest Theodore Hix B.M.E. 1949, The George Washington University	Va.	Bradner Charles Riggs Roger Elmer Robertson B.S. in E.E., M.S. in E.E. 1942, Massachusetts Institute of Technology	R.I.
Theodore Leon Humes A.B. 1948, University of Pittsburgh	Pa.	Elliot Arnold Salter B.S. in Eng. 1945, Brown University	D.C.
Mary Texas Hurt A.B. 1949, The George Washington University	Ala.	David Mulford Schiller B.S. in E.E. 1948, Carnegie Institute of Technology	D.C.
Albert Lavern Jeffers B.S. 1949, Evansville College	Ind.	Saul Marvin Schwartzbach A.B. 1949, The George Washington University	Va.
Paul Craig Kalvin A.B. 1948, The George Washington University	Va.	Walter Franklin Sheble A.B. 1948, Princeton University	Md.
Rae Ann Kaufman A.B. 1950, Texas State College for Women	Tex.	George Francis Smith A.B. 1950, The George Washington University	Va.
Mary Jane Klipple A.B. 1946, The George Washington University	Colo.	Paul M. Southwell A.B. 1940, The George Washington University	N.C. Ind.
Myles Henry Knowles A.B. 1947, Michigan State College	D.C.	Percy Thornton, Jr. Ellsworth Evans Van Meter A.B. 1932, Indiana State Teachers College	S.D.
Morton Kudrsh John Eldridge Lappin Raymond Lee B.S. 1948, Pennsylvania State College	N.Y. D.C. N.Y.	Carl Morten Wendt A.B. 1937, A.M. 1939, University of South Dakota	Va.
George Arthur Lundquist B.S. 1948, University of Maryland	Md.	Basil Alexander Wood, Jr. A.B. 1948, University of North Carolina	Pa.
John William Lynch Marvin Vincent McCormick A.B. 1941, Akron University	Md. Ohio	Dale Alan Wright B.S. 1948, Carnegie Institute of Technology	D.C.
Lucille W. Meyer Llewellyn Richard Michaud Ronald Kenneth Millar A.B. 1951, San Diego State College	Tex. Maine Calif.	Martin Jay Zuckerman	
MAY 28, 1952			
Francis Girault Addison III B.S. 1947, Washington and Lee University	D.C.	Carl William Belcher A.B. 1952, Duke University	Ky. N.Y.
Theodore Daniel Agayoff A.B. in Govt. 1949, The George Washington University	Conn.	Hyman Berman A.B. in Govt. 1949, The George Washington University	Ill. D.C.
Norton Ansher B.E.E. 1949, The George Washington University	N.Y.	John Aloysius Berry Norman Blumenkopf A.B. 1941, Brooklyn College	N.Y.
David Appelstein A.B. 1949, The George Washington University	D.C.	Abraham Bogorad B.S. 1941, College of the City of New York	Va.
Morton Weissel Bachrach B.S. 1947, Roanoke College	Va.	Paul Joachim Brand B.S. 1941, New York University	
Walter Harvey Beardmore	Md.		



Arthur Brown	D.C.	Herold Homer Lowhe	Ind.
A.B. 1939, The George Washington University		A.B. 1935, Hanover College	
Donnell Buchanan	Md.	Henry Willard Lundgren	Wash.
A.B. 1937, Tulane University		James Edward Mack	D.C.
James Clayton	D.C.	A.B. 1934, The George Washington University	
James Cohen	D.C.	Nicholas Malinichak	Pa.
M.F. 1947, University of Maryland		A.B. 1949, University of Pittsburgh	
Joseph Connerton	Pa.	William Grady Malone	Va.
B.A. 1949, University of Pennsylvania		B.S. 1941, Louisiana State University	
Conrad	Kans.	Charles Lane Marshall, Jr.	W.Va.
A.B. 1949, University of Kansas		B.S. in E.E. 1949, Purdue University	
Russell Davis	Tex.	Robert William Martin	Mo.
Joseph Drew	Wis.	A.B. 1949, Southwest Missouri State College	
University of Wisconsin		Richard Bingham Mathias	Pa.
University of Nebraska	Calif.	George Joseph Maurer	Pa.
University of Nebraska		Sylvester John McCloskey	Pa.
University of Nebraska	N.Y.	A.B. 1949, The George Washington University	
University of Nebraska		John Kinsey McCulloch	D.C.
University of Nebraska	D.C.	B.S. in Eng. 1950, The George Washington University	
University of Nebraska		Samuel Meerkrebs	Ohio
University of Nebraska	Va.	B.C.E. 1942, University of Toledo	
University of Nebraska		David Ralph Mellen, Jr.	D.C.
University of Nebraska		Katherine Rebecca Milby	Va.
University of Nebraska	Md.	B.S. 1947, Longwood College	
University of Nebraska		Edwin Cyrus Miller	Pa.
University of Nebraska	N.J.	A.B. 1949, Muhlenberg College	
University of Nebraska		David Lewis Moore	D.C.
University of Nebraska	N.Y.	A.B. 1936, Harvard University	
University of Nebraska	D.C.	Jorge Morales Yordan	Puerto Rico
University of Nebraska		A.B. 1948, University of Puerto Rico	
University of Nebraska		Leroy Moran	Va.
University of Nebraska		A.B. 1949, Lynchburg College	
University of Nebraska	Md.	Priscilla Margaret Naecker	D.C.
University of Nebraska		Ralph Woodford Parker	Md.
University of Nebraska		A.B. 1949, Georgetown University	
University of Nebraska	Va.	Robert John Patch	D.C.
University of Nebraska		B.S. 1948, University of Michigan	
University of Nebraska	Md.	William Darby Payne	D.C.
University of Nebraska		A.B. 1949, University of Maryland	
University of Nebraska		Guy Nicholas Perench	Md.
University of Nebraska	Va.	A.B. 1949, University of Notre Dame	
University of Nebraska		John Peto	N.Y.
University of Nebraska		B.S. 1947, College of the City of New York	
University of Nebraska	Iowa	Walter Alfred Pizak	Pa.
University of Nebraska	D.C.	A.B. 1949, Welles College	
University of Nebraska	Md.	Carl Donald Quarforth	S.D.
University of Nebraska		B.C.E. 1946, University of Virginia	
University of Nebraska	Ill.	Alice Marion Rand	Md.
University of Nebraska		A.B. 1945, Wellesley College	
University of Nebraska	Md.	William Elmer Recktenwald	Va.
University of Nebraska		B.S. in M.F. 1948, Purdue University	
University of Nebraska	W.Va.	Samuel Bryson Ross	Pa.
University of Nebraska		A.B. 1921, University of Pittsburgh	
University of Nebraska	D.C.	A.M. 1924, Ph.D. 1931, Columbia University	
University of Nebraska		Donald Carver Rowland	Md.
University of Nebraska	D.C.	Gerald Earl Rudman	Maine
University of Nebraska		A.B. 1949, University of Maine	
University of Nebraska	N.Y.	Helen Janet Schwartz	D.C.
University of Nebraska		A.B. 1948, The George Washington University	
University of Nebraska	N.Y.	Nelson Harsh Shapiro	Md.
University of Nebraska		B.E. 1948, Johns Hopkins University	
University of Nebraska		Richard Fuller Shryock	Md.
University of Nebraska		A.B. 1949, University of North Carolina	
University of Nebraska	Va.	George Klepfer Spann	Md.

James Elwood Stauffer  
A.B. 1941, Franklin and Marshall  
College  
James Reist Stomer  
B.S. 1949, Franklin and Marshall  
College  
William Franklin Thomas  
B.S. 1948, University of Oregon  
Murry Tillman  
A.B. 1944, Brooklyn College  
Joseph Thomas Valenzi  
William Davies Warmack  
George Cabot Wear  
A.B. 1949, University of Maryland  
Edward Webster  
B.S. 1942, University of Maryland

Calif. Milton Weisman  
B.Ch.E. 1939, New York University  
Simon Louis Welter  
Pa. A.B. 1934, Harvard University  
Ed.M. 1938, Boston Teachers College  
Fred Lee Witherspoon, Jr.  
Oreg. B.S. in M.E. 1941, University of  
Maryland  
N.Y. Jay Warren Wolfenson  
A.B. 1948, The George Washington  
University  
Va. Harry Eugene Wood  
D.C. Wilbur Henry Ziehl  
D.C. A.B. 1950, The George Washington  
University  
Md. Chester Anthony Zybiut  
A.B. 1950, DePaul University

## JURIS DOCTOR

## NOVEMBER 12, 1951

Edward Carlton Allen, Jr.  
B.S. 1938, United States Coast Guard  
Academy  
Kingdrel Navarre Ayers  
(With distinction)  
B.S. 1941, United States Coast Guard  
Academy  
John Reeder Bronaugh  
B.S. in M.E. 1947, Virginia Polytechnic  
Institute  
Paul Gerald Dembling  
A.B. 1949, A.M. 1943, Rutgers  
University

Va. Joe Louis Horne  
(With distinction)  
B.S. 1941, United States Coast Guard  
Academy  
Fla. Ruloff Frederic Kip, Jr.  
B.S. in Eng. 1943, Princeton University  
Robert Raymond Russell  
D.C. B.S. 1939, United States Coast Guard  
Academy  
N.J. Lewis Tilden Steadman  
(With distinction)  
B.M.E. 1946, Syracuse University

## FEBRUARY 22, 1952

Arnold George Gulko  
B.Ch.E. 1947, New York University

Va. Jules Henry Steinberg  
B.S. 1948, Pennsylvania State College

## MAY 28, 1952

Earl Edward Anderson, Jr.  
B.S. 1940, A.M. 1949, West Virginia  
University  
Bernard Jack Cantor  
B.M.E. 1949, Cornell University  
Thomas Jefferson Dillehay, Jr.  
B.B.A. 1947, A.M. 1940, Baylor  
University  
Herbert Emerson Forrest  
(With distinction)  
A.B. 1948, The George Washington  
University  
Russell Royden Hermann  
A.B. 1940, Washington State College  
Leiland Myers Martin  
B.S. 1934, University of Arkansas

W.Va. Andrew Bruce Moritz  
A.B. 1942, University of South  
Dakota  
N.Y. Mary Katherine Nesbit  
A.B. 1933, The George Washington  
University  
Tex. Frances Louise Nunn  
A.B. 1948, Vassar College  
Va. Barbara Ellen Reardon  
(With distinction)  
A.B. 1948, University of Washington  
Robert Sherwood Stubbs II  
(With distinction)  
A.B. 1942, University of Alabama

## MASTER OF LAWS

## NOVEMBER 12, 1951

William Taylor Andrews  
B.E.E. 1944, The George Washington  
University  
LL.B. 1949, Albany Law School  
John Edward Cavannah  
A.B. 1941, University of Oregon  
LL.B. 1949, The George Washington  
University

D.C. Samuel Green  
A.B. 1948, LL.B. 1940, The George  
Washington University  
Selwyn Charles Jackson  
Oreg. LL.B. 1948, Boston College of Law

## FEBRUARY 22, 1952

Rutherford Day A.B. 1947, Harvard University LL.B. 1949, Georgetown University	D.C.	Paul Herbert Rapp A.B. 1947, University of California at Los Angeles	Mo.
Ernest Van Hallberg, Jr. A.B. 1942, University of Florida LL.B. 1950, The George Washington University	Fla.	Willis Case Rowe A.B. 1948, LL.B. 1950, The George Washington University	D.C.
Robert Ivan Lainof B.S. 1939, North Carolina State College LL.B. 1950, The George Washington University	Va.	John Lewis Withers B.S. 1940, Davidson College A.M. 1941, University of North Carolina	N.C.
John Lewis Leader LL.B. 1940, Canisius College B.S. 1949, Georgetown University	D.C.	Francis Worley A.B. 1938, Pennsylvania State College LL.B. 1941, Dickinson College	Pa.
Roger William Mullin, Jr. A.B. 1935, Brooklyn College LL.B. 1938, Fordham University	Va.		

## MAY 28, 1952

Eva Bertrand Adams A.B. 1938, University of Nevada A.M. 1946, Columbia University LL.B. 1950, Washington College of Law	Nev.	Samuel Joseph L'Hommedieu, Jr. B.S. 1949, University of Maryland LL.B. 1951, The George Washington University	D.C.
Robert James Annis LL.B. 1951, The George Washington University	Mich.	James Francis McHale B.S. 1936, College of the City of New York	Va.
Robert Edward Breidenthal B.S. in Ch.E. 1947, Oklahoma University	Md.	Walter Frederick Morse A.B. 1942, Princeton University LL.B. 1948, University of Virginia	Conn.
LL.B. 1949, Washburn Municipal University of Topeka		Joseph Patrick Murphy A.B. 1949, LL.B. 1950, The George Washington University	Va.
Mary Sandford Brewster LL.B. 1950, The George Washington University	Va.	James Edwin Rodgers LL.B. 1950, The George Washington University	Pa.
Enter William Cole, Jr. A.B. 1940, LL.B. 1942, University of North Carolina	N.C.	Harvey Milton Spear A.B. 1942, Brown University LL.B. 1948, Harvard University	R.I.
Paul Max Craig, Jr. B.S. in E.E. 1946, Worcester Polytechnic Institute	Md.	A.M. in Govt. 1949, The George Washington University	
LL.B. 1950, Georgetown University		Noah Spurgeon Sweat, Jr. B.S.C. 1946, LL.B. 1949, University of Mississippi	Miss.
William McCray Evans LL.B. 1949, Harvard University	Va.	Michael Joseph Vitale LL.B. 1950, The George Washington University	N.J.
John Felix Glizzoni B.S. 1943, University of Pennsylvania LL.B. 1946, Catholic University of America	Pa.	Frederick Henry Walton, Jr. B.S. 1948, LL.B. 1941, Georgetown University	Md.
Gordon Francis Harrison Ph.D. 1935, Providence College LL.B. 1941, Georgetown University	R.I.		

## MASTER OF COMPARATIVE LAW

## NOVEMBER 12, 1951

Henry Herman Urman J.D. 1939, University of Vienna	D.C.	Nicholas August Vonneuman S.J.D. 1933, University of Budapest	Va.
Jean Villechaize Diplome de l'Ecole des Sciences Pol- itiques 1945, LL.D. 1946, Univer- sity of Paris	D.C.	A.B. 1949, The George Washington University	

## FEBRUARY 22, 1952

Philine Rosa Lachman LL.D. 1946, University of Amsterdam	D.C.		
---	------	--	--



MAY 28, 1952

Zuhair Elias Jwaideh  
Licentiate in Law 1944. Baghdad Law  
College

Iraq

Manuel Villafior Reyes  
LL.B. 1950, University of the  
Philippines

Philippines

## MASTER OF COMPARATIVE LAW (AMERICAN PRACTICE)

MAY 28, 1952

Otto John Mens  
J.D. 1931, Charles University of  
Prague

Md.

Alexander Ostrower  
LL.M. 1925, University of Warsaw

D.C.

## DOCTOR OF JURIDICAL SCIENCE

MAY 28, 1952

Walter Kiechel, Jr.  
A.B. 1931, University of Nebraska  
LL.B. 1949, Yale University  
LL.M. 1950, The George Washington  
University  
Dissertation: "Ascendancy of the Fed-  
eral Corporation: Forerunner of So-  
cialism?"

Nebr.

## THE SCHOOL OF ENGINEERING

## BACHELOR OF CIVIL ENGINEERING

NOVEMBER 12, 1951

Clarence Edwin Becraft  
Antonio Garcia

Md.  
Md.

Albert Gordon Hooper, Jr.

MAY 28, 1952

Peter James Caffee  
Keith Stuart Hord  
Edward Ray Mathews  
Joseph Henry Romett  
Ralph Byron Sanders

Md.  
D.C.  
Ark.  
Pa.  
Ga.

Thomas McClure Selbee  
Richard Henry Welles  
(With distinction—Special honors in  
Civil Engineering)

## BACHELOR OF ELECTRICAL ENGINEERING

NOVEMBER 12, 1951

James Muir Cantrell

D.C.

FEBRUARY 22, 1952

Vernon Edgar Benjamin  
Frank Peter Gilliam  
B.M.E. 1937, Catholic University of  
America  
John Carl Held  
Frederick Morse Holcomb, Jr.

N.Y.  
Md.  
  
D.C.  
D.C.

Willfred James Mayo-Wells  
John Francis Rue  
B.Aero.E. 1949, University of Detroit  
Louis Albert Schuppert  
Milton Lee Sing  
Robert Frazer Trainer

## MAY 28, 1952

Frank Samuel Andrews	Va.	Kenneth Jordan Meese	Md.
Charles Alvin Bass	D.C.	George Ford Myers	Md.
(With distinction)		William Oliver Noble	Pa.
Frederick Hugh Battle, Jr.	Va.	Herman Norwood, Jr.	Md.
Kenneth Stanley Bonwit	Md.	Andrew Anthony OBlazney	D.C.
Donald Eugene Bowen	Mont.	Leonard Plotkin	Fla.
Ira Jethro Crickenberger	Va.	Gerald Anthony Podolski	D.C.
Joseph Howe Davis	Va.	Asturo Roa	D.C.
Charles Thomas Freeman	Va.	Roy Ramon Schlemmer, Jr.	D.C.
Louis Catlin Gager, Jr.	D.C.	Richard Frederick Schmidt	D.C.
Murray Halperin	Va.	James William Simpson, Jr.	Va.
John Temple Hughes	N.Y.	Robert Dunham Sly	Md.
Warren Edward Kysse	Va.	Joel Simon Sonnabend	Md.
Lawrence Edwin Laubecker	N.J.	Roland Louis Van Allen	Va.
Victor Loyk	D.C.	William Abbitt Wooldridge, Jr.	Va.
	Va.		

## BACHELOR OF MECHANICAL ENGINEERING

## NOVEMBER 12, 1951

Thomas George Haggenmaker, Jr.	Va.	Richard Gordon Scott	D.C.
Norman Holden Henry	D.C.	David I-Jaw Wang	D.C.

## FEBRUARY 22, 1952

Evert Lee Bono, Jr.	Md.	Vincenzo Antonio Nicolai	N.Y.
Mark Wendel Mooney	Md.		

## MAY 28, 1952

Robert Leigh Anderson	Nebr.	Daniel Joseph McCarthy, Jr.	D.C.
Carl Clive Ballard	Ohio	Horace Ray Moody	Wash.
George Baralo	W Va.	William Nicholas	Ill.
Clarence Russell Bertram	Md.	Robert Edward Niederstrasser	Va.
Alfred Nelson Birmingham	Md.	John Franklin Pleasants	Va.
Harvey Reese Chaplin, Jr.	Va.	Charles Herbert Plyer, Jr.	Fla.
Robert McCloud Davison	Md.	Gerald Leroy Scott	D.C.
Lowell Edwin Finch	D.C.	Robert Dilman Smith	Va.
Eugene Gordon Flurie	Md.	(Special honors in Mechanical Engineering)	
James Henry Gnam	Iowa	Burch Franklin Talbert	Md.
Paul Vincent Goulden	Md.	Samuel deGuvon Taylor	Conn.
William Robert Harwood, Jr.	Md.	George Lawrence Thompson, Jr.	Va.
Richard Huntington Hobbs	D.C.	John Oliver Wordke	Va.
Richard Friedli Julius	D.C.		

## BACHELOR OF SCIENCE IN ENGINEERING

## NOVEMBER 12, 1951

William Lee Collier	D.C.	James Atlee O'Connor	Va.
Charles Andrew Fuleady, Jr.	Pa.	Samuel Bernard Rothberg	N.Y.
James Robert Morrison	D.C.		

## FEBRUARY 22, 1952

Joseph Daniel Brewer	N.Y.		
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## MAY 28, 1952

John Patrick Cissel	D.C.	Francis Clement Stewart	D.C.
John Percy Newby	D.C.		

# THE SCHOOL OF PHARMACY

## BACHELOR OF SCIENCE IN PHARMACY

FEBRUARY 22, 1952

Otto Henry Bruss

Va. Leslie Halim Samaha

MAY 28, 1952

Eli Henry Bloom  
 Erwin Allen Bondareff  
 (Special honors in Pharmacy)  
 Ralph H. Bryan  
 Leon Harry Burka  
 Richard Adolph Chocola  
 Charles Futrovsky  
 B.S. 1947, M.S. 1948, The George  
 Washington University  
 Harry Ginsburg  
 John Philip Guy  
 (Special honors in Pharmacy)

N.Y. Clifford William Haack  
 D.C. Wayne Dewitt House  
 Willard Edward Moore  
 D.C. Edward Ralph Northover  
 D.C. Fred John Richards  
 Pa. Charles Grant Richardson  
 D.C. Morris Rosenberg  
 William Gerard Sanders  
 Emmor Frederick Snyder  
 D.C. Catherine Cunningham Strayhorn  
 Md. Lawson Sidney Stroupe  
 Peter Van Allen

# THE SCHOOL OF EDUCATION

## BACHELOR OF ARTS IN EDUCATION

NOVEMBER 12, 1951

Margaret Lucille Bailey  
 Alfred Burkert, Jr.  
 Thomas Maurice Duke  
 Laura Furtado  
 Frank Herbert Laubinger  
 Christina Morley  
 Jennie Ponulak Peartree

D.C. Betty Rosendorf Roberts  
 N.J. (With distinction)  
 Va. Lawrence Edward Robinson  
 Mass. Harvey Wiener  
 Md. Audrey Reid Wilcox  
 N.J. Ernest Isley Youngblood

FEBRUARY 22, 1952

Doris Bennett Cobb  
 Betty Lee Cohen

Ala. Rita Sandra Goldsand  
 D.C.

MAY 28, 1952

Edward Welch Baker  
 Dorothy Ann Bates  
 Henriette Miller Benson  
 Jeanette Duxway Dilley  
 Thomas Darrell Drummond  
 Paschal Joseph Emma  
 Carolyn Elizabeth Hanby  
 Richard Lee Hearn  
 Margaret Josephine Heart  
 Ross Calvin Parker, Jr.

D.C. Patricia Iris Payler  
 Conn. Mary Ellen Seleen  
 Va. Margaret Ernestine Smith  
 D.C. Aime Sumiko Takabuki  
 Va. William Hughes Westbrook  
 N.Y. Harold Robert Wallis  
 Md. Jeanne Claire Wilson  
 Md. Thomas Casmere Wojtkowski  
 D.C. Julia Burton Wood  
 Va.

# BACHELOR OF SCIENCE IN HOME ECONOMICS

FEBRUARY 22, 1952

Mariella McCown Callaway  
 Margaret Harlan Olson

Ohio. Annette Carter Roberts  
 Ohio



MAY 28, 1952

Helen Chandler  
Catherine June Goodman  
Barbara Ann Healy  
Marjorie Louise McGann  
Orville Esther Rabinowitz

S.C. Mary Ann Sold  
N.Y. Betty Louise Wilson  
Mass. Pearl Elizabeth Wulf  
D.C. Barbara Davis Wyman  
Mass.

D.C.  
Md.  
Va.  
Ill.

## BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

NOVEMBER 12, 1951

John Albert Shullenbarger

D.C. William Leo Szanyi

N.J.

FEBRUARY 22, 1952

Thomas Joseph Coleman  
Jean Francis Herde  
Arlene Ann Jaspke  
Joseph Thomas Jewell, Jr.

D.C. Harry Pitt  
D.C. Margaret Clausen Psaltis  
Nebr. (Special honors in Physical  
D.C. Education)

N.Y.  
Va.

MAY 28, 1952

Thomas Joseph Alberghini  
B.S. 1944, College of the Holy Cross  
Ferdinand Sebastian Cardano  
Robert Francis Celenso  
Vincent Anthony Contrada  
Andrew Nathan Davis, Jr.  
Henry Wilbur Goshlin  
Alta Joan Higginson

Md. Joseph Albert Logan  
Md. Patricia Catherine Moore  
D.C. George Robert Otte  
D.C. Phyllis Shapiro Robbins  
D.C. William Miller Shaw  
D.C. David Hawley Shiver  
N.J. Nelson Roy Somers  
Va. Patricia Ann Weaver

D.C.  
Va.  
Md.  
Va.  
N.Y.  
Ark.  
Va.  
N.Y.

## BACHELOR OF ARTS AND MASTER OF ARTS IN EDUCATION

FEBRUARY 22, 1952

Helen Koch Elder

D.C.

MAY 28, 1952

John Henry DeLabar

Pa.

## MASTER OF ARTS IN EDUCATION

NOVEMBER 12, 1951

Manor Casey Beckwith  
A.B. in Ed. 1948, Rhode Island  
College of Education  
Sonia Brenner  
B.S. in Ed. 1949, Teachers College  
William Francis Burt  
B.S. 1944, United States Naval  
Academy  
Alta Hamilton Burleson  
B.S. 1947, Radford College  
Frank May Campbell  
B.S. in Ed. 1949, State Teachers  
College, Indiana, Pa.  
Hert Albert Ganssion  
B.S. 1948, State Teachers College,  
Empire, Md.  
A.B. 1948, Western Maryland College

Md. Clara Lillian Coffman  
A.B. in Ed. 1948, The George  
Washington University  
Md. Julia Ann Coppa  
A.B. in Ed. 1948, The George  
Washington University  
Ohio Ramon Noyel Diomalas  
Philippines  
B.S.E. 1949, Far Eastern University  
Va. Helen Little Dolanowski  
D.C.  
Va. A.B. 1943, University of North  
Carolina  
Va. Barbara Ruth Dobson  
Va.  
Md. Barbara Ruth Dobson  
A.B. 1944, Nebraska State Teachers  
College  
Md. Hilda Lee Doggett  
W.Va.  
A.B. in Ed. (elem.) 1944, A.B. in  
Ed. (gen.) 1945, Shepherd College  
W.Va.  
Carl Jackson Fortsworth  
A.B. 1945, New River State College

Joseph Lamar Fisher  
A.B. 1945, Bowdoin College  
A.M. 1947, Ph.D. 1947, Harvard University  
Margaret Winslow Fisher  
A.B. 1945, Reed College  
Anna Benjamin Felt  
B.S. 1944, Wilson Teachers College  
Maurice Morton Greenman  
B.S. in Ed. 1945, Wilson Teachers College  
John Robert Grinnell  
B.S. in P.E. 1946, The George Washington University  
Alfred Darius Hagle  
A.B. in Ed. 1947, Central State College  
Lyle Emerson Henderson  
B.S. 1945, Northwestern University  
Vernon VanCleve Houts  
B.S. 1946, Baker University  
Elizabeth McNight Howze  
B.S. 1944, State Teachers College, West Chester, Pa.  
Martha Radcliffe Joyce  
A.B. 1944, Wellesley College  
Morton Conner Judy  
A.B. 1946, Shepherd College  
Frank Carl Kley, Jr.  
B.S. in P.E. 1948, The George Washington University  
Robert Oscar Lewis  
B.S. 1947, George Pepperdine College  
John Martin Long  
B.S. in Ed. 1940, State Teachers College, Lockhaven, Pa.  
Joseph Mancoske  
A.B. 1946, The George Washington University  
Mary Rita Markham  
A.B. 1946, Trinity College  
Jean Olga Mayo Wells  
A.B. 1946, Syracuse University  
Lillie Mae Melvor  
B.S. 1946, Radford College  
Samuel John Mellott  
B.S. in P.E. 1949, The George Washington University  
Leona Penchant Moss  
B.S. 1949, Temple University  
Ralph Joseph Munson  
A.B. 1944, Williams College  
A.M. 1945, Brown University

Va. Harrietta Sinclair Peters  
B.S. 1945, Madison College  
Lewis R. Purnell  
B.S. in Ed. 1946, State Teachers College, Kutztown, Pa.  
Va. Mildred Moe Reeder  
D.C. A.B. 1937, Central Washington College of Education  
D.C. Franklin Abraham Rockwell  
A.B. 1941, Shepard College  
Robert Manning Rountree  
A.B. 1948, Mercer University  
Va. Henry Walter Schmalzer  
B.S. 1947, Lebanon Valley College  
Okla. Evelyn Louise Shockey  
B.S. 1946, University of Virginia  
Ruth Howell Showalter  
B.S. 1946, Radford College  
Wis. Caroline Louise Shugars  
B.S. in Ed. 1947, State Teachers College, Shippensburg, Pa.  
Md. Irene Dorothy Surlie  
A.B. 1948, Rocky Mount College  
Md. Louis Robert Sosna  
A.B. in Govt. 1949, The George Washington University  
Mass. Philip Columbus Sterling, Jr.  
B.S. 1947, United States Military Academy  
Va. Ernest Evans Stevens  
B.S. 1944, United States Naval Academy  
Va. Barbara Jane Tillson  
A.B. 1942, Madison College  
Pa. Roger Atkinson Wolfe, Jr.  
A.B. 1946, Princeton University  
Pa. Marion Webber Wellington  
A.B. 1941, Brown University  
A.B. in Ed. 1945, Rhode Island College of Education  
D.C. Glenn Sherman Wells  
B.S. in Ed. 1949, Madison College  
D.C. Fred Gardner Welshans  
A.B. 1947, Shepherd College  
Va. Elizabeth Tudor Wilt  
B.S. 1944, Madison College  
D.C. Walter Zuke  
B.S. 1938, Albright College

## FEBRUARY 22, 1952

Harvey Alexandra Bleam  
B.S. in Ed. 1940, Wilson Teachers College  
Harry Gombb Detweiler  
B.S. 1946, Pennsylvania State Teachers College, West Chester  
Frances Helena Ely  
B.S. 1945, Western Reserve University  
Charles Gregory Garland  
A.B. 1946, Rhodes College  
Hilda Lawson Jenkins  
A.B. 1942, University of Richmond  
Virgil Eben Korns  
B.S. 1949, United States Naval Academy  
Nathan Kurlitsky  
A.B. in Ed. 1940, The George Washington University

Va. Audrey Blessing Norris  
A.B. 1942, American University  
Pa. Peter Thomas Olney  
B.S. 1949, Pennsylvania State College  
George William Saunders, Sr.  
B.S. 1948, Wilson Teachers College  
Ohio Charles Waldron Shapley  
A.B. 1942, Shepherd College  
N.J. James Thomas, Jr.  
B.S. 1948, University of Maryland  
Va. Lucile Virginia Tansou  
A.B. 1942, College of William and Mary  
Md. Lewis George Van Gorder  
B.S. 1943, Pennsylvania State Teachers College, Mansfield  
D.C. Mary Charlotte Weeks  
A.B. 1942, Madison College

MAY 28, 1952

Joseph Gail Albright B.S. in Ed. 1949, Northeast Missouri State Teachers College	Mo.	Osceola Coffield Joiner B.S. 1947, Alabama State Teachers College, Florence	Va.
Robert Ray Benson B.S. in Ed. 1951, University of Vanderbilt	Ind.	Ruth Eleanor Lange B.S. 1949, Teachers College of Connecticut	Va.
Joe Ferrell Buckner B.S.A. 1948, University of Southern Mexico	Canada	George Martin Miller A.B. 1948, George Pepperdine College	Va.
Harry Leva Chasey B.S. in Ed. 1944, Rutgers University	Va.	Roy Lee Miller A.B. 1947, Bridgewater College	Va.
Conrad Jacoby Craig B.S. in P.E. 1942, The George Washington University	D.C.	Harriet McAndrew Murphy B.S. 1948, Wilson Teachers College	D.C.
Henry William F. Edwards A.B. 1947, Western Montana State College	Mont.	Vonna Watson Offield B.S. 1923, Northeast Missouri State Teachers College	Va.
Walter Irvin Eggelman, Jr. B.S. 1942, University of New Mexico	N.M.	Robert Roscoe Payne A.B. 1941, Shepherd College	W.Va.
Dee Edward Folsom B.S. in Ed. 1948, Wilson Teachers College	Ind.	Alice McCordell Quirk B.S. 1942, Johns Hopkins University	Md.
Morgan René Fowle B.S. 1948, Wilson Teachers College	D.C.	Joseph Bernard Reid A.B. in Ed. 1950, The George Washington University	Va.
Ramona George Hanken B.S. in P.E. 1947, The George Washington University	D.C.	Madeleine Stauden Ritzberger B.S. in P.E. 1940, University of North Carolina	D.C.
Lynelle Roberta Harpster B.S. in P.E. 1948, The George Washington University	Md.	Leana Pearl Ruxton B.S. in Ed. 1950, Madison College	Va.
Thomas Gordon Hones B.S. 1949, Lynchburg College	Va.	Frederick Charles Schwanz B.S. 1948, Patuxent College of Physical Education and Hygiene	Md.
David H. Iwamoto A.B. 1947, Walla Walla College	Hawaii	Miriam Chastelien Siggerson A.B. 1941, University of Utah	Va.
James Wiley Jacobs B.S. in P.E. 1949, The George Washington University	Md.	Mary Elizabeth Stadtmueller A.B. 1948, Coe College	Iowa
Margaret Mamm Johnson B.S. in Ed. 1942, Pennsylvania State Teachers College, California	Md.	Jesse Lee Stuckey A.B. 1948, Western Maryland College	Md.
		Lorene Vinton Stephens A.B. 1948, University of Arkansas	Va.
		Mary Maxine Wapner B.S. 1947, Salem College	Va.

DOCTOR OF EDUCATION

NOVEMBER 12, 1951

John Carl Long A.B. 1946, State Teachers College, Valley City, N.D.	S.D.	Luther Cecil McRae A.B. 1927, Ed.M. 1928, Duke University	Va.
AM in Ed. 1949, The George Washington University		Dissertation: "The Administration of the Undergraduate Program of Teacher Education in Virginia"	
AM 1949, School of Education, Northwestern University			
Dissertation: "The Nature and Solu- tion of the Problems of Beginning Male College Students"			

MAY 28, 1952

Grover LaMarr Angel A.B. 1929, High Point College AM in Ed. 1946, The George Washington University	N.C.
Dissertation: "The Management of Internal School Finance"	



# THE SCHOOL OF GOVERNMENT BACHELOR OF ARTS IN GOVERNMENT

NOVEMBER 12, 1951

Yehuda Hillel Abrams  
 Ronald McKenzie Alexander  
 Robert Brooke Allen  
 James Arthur Ball  
 William Harbour Barrett  
 John Adam Bikowski  
 Don Phillip Bostwick  
 Randolph Bratt  
 David Jule Buchsbaum  
 Dorothy Wei Chow  
 Edward Ashby Christie  
 Edwin William Cieszkowski  
 Robert Henry Cohen  
 Eugene Ambrose Connell, Jr.  
 Charles Franklin Crichton  
 Michael Nicholas Dane  
 Jean Paul DeBlois  
 Eugene Francis Ford  
 Jacob William Freestland, Jr.  
 Peter Alfonso Gihotti  
 Fulton Ray Gordon  
 William Frederick Griffiths  
 (With distinction)  
 Norma Hewett  
 Richard Charles Holroyd  
 Paul Summer Jack, Jr.  
 Joseph Adam Jaskiewicz  
 Robert Edwin Johnson  
 Merrill Dennaldson Knight III  
 Alexander Kozel  
 L. B. 1950, The George Washington  
 University

Md. John Pershing Lien  
 D.C. Thomas Edward Long  
 Md. Eugene Barton Lunsford, Jr.  
 Mo. Warren Preston Malkin  
 Ga. Leon Manaker  
 D.C. Paul James Marion  
 Iowa Thomas Anthony McMahon  
 Md. Dennis Everett McQueary, Jr.  
 N.J. Richard Gordon Morley  
 China Robert Daniel O'Neill  
 Mass. Herbert Orenstein  
 Pa. John Kenneth Perry  
 D.C. Joseph Edward Rabin  
 Md. Anthony John Re  
 D.C. Daniel Francis Reagan, Jr.  
 Pa. John Edward Rezler  
 Va. Douglas Joseph Rykhus  
 D.C. William Schifter  
 Va. John Charles Schumann  
 D.C. Orin Seltzer  
 Md. Victor Emile Seyen, Jr.  
 Pa. David Silverman  
 Va. Luther Earl Smith  
 Conn. Hillery David Spain  
 Va. Donald Axe Spiker  
 N.J. David Lester Stearman  
 N.Y. Shelton Billy Taylor  
 Va. Genaro Viola  
 Pa. William Fred Wenger  
 (With distinction)  
 Leonard Williams

FEBRUARY 22, 1952

Edward Gutemuth Albee  
 Sidney Edgar Arias  
 Frederick Albert Bauer  
 Hazel Rachel Beall  
 Lloyd Kenneth Belt  
 Einar Berlo  
 (With distinction)  
 James William Bouse  
 Joseph Clark, Jr.  
 Burton Morris Cooper  
 Frank B. Dean  
 Robert Edward Driscoll  
 Frederick Philip Freed  
 Leonard S. Friedman  
 B.S. 1947, College of the City of  
 New York  
 George William Garner  
 William Henderson Hall  
 Elizabeth Josephine Harper  
 (With distinction)  
 Dorothy Ann Hodge  
 (With distinction)  
 Brandau Chappelle Hughes

Va. William Malcolm Hughes  
 Panama Thomas Sewell Israel  
 D.C. Francis John Jeton  
 W.Va. Joseph Paul Kozlowski  
 D.C. Harold Lacombe  
 N.Y. Eugene Walper Lowe  
 Timothy Robert O'Leary  
 (With distinction)  
 Md. Richard Langford Peppers  
 D.C. (With distinction)  
 D.C. George Konstantinos Peterson  
 Tenn. Harold Thompson Prentzel, Jr.  
 Pa. Henry Raden  
 Mass. John Charles Shuster  
 N.Y. Leon Jacob Slavin  
 W.Va. Robert Sams Smith  
 Va. Milton Calvin Sterling  
 Mo. Robert Lee Thomson  
 Nebr. Robert Penn Towson  
 D.C. James Harold Uphoff  
 Rose Agnes Wutzer  
 David Eugene Yager

MAY 28, 1952

Paul Gowdy Andes  
 Norman Jacob Andrews  
 Francis Anthony Antonelli  
 Elias Smiler Aronson  
 John Joseph Arthur

Fla. Stephen Elmer Balogh, Jr.  
 Md. Sheridan Esteban Besosa  
 D.C. Albert Binder  
 D.C. Jean Oliver Banks  
 D.C. Claude Lee Butler

# Degrees Conferred

411

Edwin John Carpenter, Jr.	D.C.	Charles Raymond Howard II	Ill.
William Fleming Clouser, Jr.	Va.	William Gordon Irvin, Jr.	D.C.
David Israel Cohen	Pa.	Glenna Isabelle Keller	Ohio
Paul Appleby Colborn	D.C.	Robert Andrews Kevan	Va.
Marjorie June Cole	Kans.	Joseph Frederick King	D.C.
Michael Joseph Collins	N.Y.	Alvin Kornblum	D.C.
John Gibbs Connell, Jr.	Va.	Abraham Lincoln Acker Kulla	Md.
LeRoy William Cornish, Jr.	D.C.	James Lopes	D.C.
William Meade Deck II	D.C.	David White McIlhatten	Va.
Nancy Tucker Dilli	D.C.	Robert Center Minor	Md.
Glen Shirley Faxon, Jr.	Va.	Marguerite Mignonette Mondlock	Ill.
Gerard Alfred Field	Va.	(With distinction)	
Eric Bert Foster	Va.	Robert Campbell Morgan	Va.
George Rodenick Fraser	Mich.	Denver Collyn Pitts	Ohio
Robert William Funke	Md.	George William Rawnsley	Mass.
Merquades J. Gamboa, Jr.	Philippines	LeRoy Milburn Richey, Jr.	D.C.
Robert Martin Gartner	D.C.	Richard Charles Riecken	Ohio
(With distinction)		Carl Joseph Ruths	Pa.
Alan Solomon Gindoff	N.Y.	Norman Galt Schikevitz	D.C.
Lee Glassberg	N.Y.	Philip Schwartz	N.Y.
Reiley Goldsmith	N.J.	John James Stepanek	Ill.
Gravel Golan	D.C.	John Cameron Stevens	Mass.
Joseph Daniel Goodwin	D.C.	Patricia Ray Stoneman	Wis.
Erin Carlwell Green	S.C.	(With distinction)	
Elis Grubis	Va.	John Xavier Supinski, Jr.	Pa.
A.B. LL.B. 1930, LL.M. 1948, The		Robert Lee Thompson	D.C.
George Washington University		Louis James Tiches	Va.
Frederick Allen Gann	Va.	Maurice Hsien-pin Tseng	D.C.
Urban Keller Guthery	W.Va.	Charles Raymond Tyler	Md.
Roboy Jack Hart	D.C.	Casimer Francis Uchman	Mass.
Bruce Reid Hartman	Va.	Franklin Vick	Va.
Betty Marie Hedrick	Va.	Lawrence John Warick	D.C.
Jerome Samuel Hertz	Mass.	Herbert John Weiler	N.D.
(With distinction)		Heiman Weingarten	N.Y.
Frank Hollis	D.C.	Donald George Wren	Mo.

## MASTER OF ARTS IN GOVERNMENT

NOVEMBER 12, 1951

John Glenn Barmby	Mass.	Merlin Ricks Leishman	Utah
A.B. 1944, Middlebury College		B.S. 1949, Utah State Agricultural	
B.S. 1944, Massachusetts Institute		College	Ill.
of Technology		Charles Ernest Litten	
Edward Larrick Burnardner	Va.	A.B. in Govt. 1950, The George	Mo.
A.B. in Govt. 1948, The George		Washington University	
Washington University		Robert Jonett Mitchell	Ariz.
A.B. 1948, American University	N.J.	B.S. 1943, Cornell University	
Murray Snell Danforth, Jr.	R.I.	Marion Pauline Moore	Tex.
A.B. 1948, Yale University		A.B. 1949, University of Arizona	
James Frederic Davidson	Kans.	Virginia Mae Sherard	N.Y.
A.B. 1945, Yale University		A.B. 1950, The George Washington	
Robert Murry Dean	Mo.	University	
A.B. in Govt. 1951, The George		George Sugarman	
Washington University		B.S.S. 1944, College of the City of	
Harold Owen Duncan	Ga.	New York	Va.
B.C.S. 1942, University of Georgia	N.Y.	Guy Everett Van Rismick	
Walter Henry Gelby	Kans.	A.B. in Govt. 1951, The George	Tex.
A.B. 1941, New York University		Washington University	
John Raymond Hildebrand		John Mitchell Williams	D.C.
A.B. 1949, University of California		B.S. 1949, Texas Christian University	
		Paul Randolph Wilson	
		A.B. in Govt. 1949, The George	
		Washington University	

FEBRUARY 22, 1952

Robert Clinton Anderson	Va.	George Michael Franko, Jr.	Pa.
B.S. 1948, Roanoke College		A.B. 1950, Western Maryland College	
Raymond Mario D'Amelio	N.J.		
B.S. in F.S. 1950, Georgetown			
University			

Irving David Gessow  
B.Ch.E. 1939, College of the City  
of New York  
M.S. in M.E. 1945, University of  
Pennsylvania  
Ross Charles Horning  
A.B. 1948, Augustana College  
James Christian Karras  
A.B. 1949, University of Michigan  
Tom Kouzes  
A.B. in Govt. 1949, The George  
Washington University  
Leonard Anthony Lembeck  
B.S. in Ind. Eng. 1942, Northwestern  
University  
Mary Patricia MacDonald  
A.B. 1939, Goucher College

D.C. Levie Earl Peyton, Jr.  
A.B. 1950, East Carolina Teachers  
College  
Stanley Herkimer Seiple  
A.B. 1949, University of Connecticut  
S.D. Billy Jack Tenney  
A.B. in Govt. 1949, The George  
Washington University  
Ill. Robert James Ulrich  
A.B. in Govt. 1948, The George  
Washington University  
Va. George Arthur Van Staden  
A.B. in Govt. 1950, The George  
Washington University  
Calif. Tseng Fu Wang  
B.S. 1939, National University of  
Peking  
Pa.

## MAY 28, 1952

Austin Jerome Bonis  
B.S. 1944, College of the City of  
New York  
Edward John Brown  
A.B. 1948, Muhlenberg College  
Frederic Thomas Greenhalge  
A.B. 1946, Harvard University  
Gerald Peter Holmes  
A.B. 1947, University of Washington  
John Kakalec  
A.B. in Govt. 1949, The George  
Washington University  
LeRoy Linwood Lee  
A.B. in Govt. 1948, The George  
Washington University  
Robert Baughman Lewis  
A.B. 1941, University of Western  
Ontario  
Franklin Otto McCord  
A.B. in Govt. 1950, The George  
Washington University  
Richard Lionel Olson  
A.B. in Govt. 1949, The George  
Washington University  
Frank Herbert Perez  
A.B. in Govt. 1949, The George  
Washington University  
William James Shouse  
A.B. in Govt. 1950, The George  
Washington University  
Alice Elaine Walker  
A.B. in Govt. 1947, The George  
Washington University  
Edward Elias Grumm  
B.S. 1944, United States Naval  
Academy

D.C. John Charles Hammett  
A.B. 1948, The George Washington  
University  
Pa. Reuben Horshaw  
A.B. 1946, Yale University  
Md. L.L.B. 1926, University of Cincinnati  
William Ferdinand Kraemer  
A.B. 1942, University of Delaware  
Wash. Robin Morton Lindsey  
A.B. 1946, Stanford University  
Pa. Irving Franklin Macey  
B.S. in B.A. 1940, Boston University  
Md. Rob Roy McGregor  
B.S. 1949, United States Naval  
Academy  
Md. Clayton Louis Miller  
B.S. 1944, United States Naval  
Academy  
Iowa A.M. 1950, Stanford University  
Theodore Taft Miller  
B.S. 1940, United States Naval  
Academy  
Conn. Sievald Olson  
B.B.A. 1948, University of Minnesota  
D.C. Joseph Howard Richmond  
B.S. 1949, University of Maryland  
Ky. Richard Dean Robertson  
B.S. 1944, Syracuse University  
Robert Fenn Towson, Jr.  
A.B. in Govt. 1952, The George  
Washington University  
Md. James Alexander Shurley  
A.B. 1941, Clemson College  
Pa. Beecher Snipes  
Lester Orin Wood  
B.S. 1951, United States Naval  
Academy

## MASTER OF ARTS IN PUBLIC ADMINISTRATION

## MAY 28, 1952

Randolph Wilbur Lee  
A.B. 1947, University of Colorado  
John Roger Nylan  
A.B. 1950, Lebanon Valley College

Va. David Worthington Quant  
A.B. 1949, Colgate University  
Md.



## MASTER OF BUSINESS ADMINISTRATION

MAY 28, 1952

Robert Judy Bear B.S. 1940, Cornell University	N.J.	Henry Thornton Dietrich B.S. 1926, United States Naval Academy	Ohio
Wilbur Earle Benson A.B. 1951, The George Washington University	D.C.	William Bullard Durant, Jr. A.B. 1919, Harvard University	Va.
James Vogt Bewick B.S. 1944, United States Naval Academy	Mo.	Howard Clarence Flatau B.S. 1949, University of Dayton	Mich.
David Morris Burns B.B.A. 1946, University of Texas	N.H.	Francis Michael Gambacorta B.S. 1944, United States Naval Academy	N.J.
Jerome Cherry A.B. 1946, Randolph-Macon College	Va.	John Willard Geist B.S. 1914, United States Naval Academy	Pa.
John Martine Court B.S. 1936, United States Naval Academy	Md.	John Wesleywood Gordanier B.S. in C.E. 1932, Washington State College	Wash.
Harry Morton DeWitt B.S. in I.E. 1942, Alabama Polytechnic Institute	Ala.	M.S. in C.E. 1939, University of Colorado	

## THE GRADUATE COUNCIL

## DOCTOR OF PHILOSOPHY

NOVEMBER 12, 1951

Rafael Andres Toro B.S. 1921, University of Puerto Rico M.S. 1925, Cornell University A.M. 1936, Harvard University Dissertation: "A Study of the Tropical American 'Black-Mildews'"	Puerto Rico	Evelyn Wingate Wenner A.B. 1928, Blue Ridge College A.M. 1937, Johns Hopkins University Dissertation: "George Stevens and the Boydel Shakespeare"	Md.
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FEBRUARY 22, 1952

Walter Lloyd Newton B.S. 1942, A.M. 1948, The George Washington University Dissertation: "The Influence of Genetic and Other Factors on the Susceptibility of <i>Australorhis glabratus</i> to Infection with <i>Schistosoma mansoni</i> "	Md.	Leon Swell B.S. 1948, College of the City of New York M.S. 1949, The George Washington University Dissertation: "Studies of Cholesterol Excretory Systems"	W.Va.
Robert Harrison Shaw A.B. 1946, Carroll College A.M. 1941, University of Wisconsin Dissertation: "On the Proof of a Theorem of Frobenius Without the Use of Group Characters"	Va.		

MAY 28, 1952

Don Carlos Faith A.B. A.M. 1949, The George Washington University Dissertation: "A System of Qualitative-Louis Analysis for the Armed Forces"	D.C.	John Wallace McCalley A.B. 1945, A.M. 1947, The George Washington University Dissertation: "Futures Trading Considered as an Aspect of Monetary Theory"	N.Y.
Paul Louis Hils A.B. 1916, A.M. 1941, University of California Dissertation: "North American Copepods Belonging to the Family Notodelphyidae"	Wash.	Theodore Peter Perros B.S. 1946, M.S. 1949, The George Washington University Dissertation: "The Effect of Fluorine on Praseodymium Trifluoride and The Preparation and Properties of Certain Fluoplatinates"	D.C.

## RECIPIENTS OF AWARDS

### SCHOLARSHIPS

1951-52

- The Alumni Scholarships:* George Webster Latimer, Jr., John Crawford Lunsford  
J. Warren Lytle, Richard Roberts
- The Anna Bartsch Scholarship:* Gloria Swanson Godbey
- The Emma K. Carr Scholarships:* Stanley Morris Bialek, Einar Bjorlo, Edward  
A. Downs, Samuel Peter Favarella, Chester Hayden McCall, Jr., Murray Lewis  
Howder, Lawrence Edwin Laubscher, Donald R. Morgan, Ntinos Cleovoulas
- The Myrianthopoulos, Georg Tennyson, Lawrence Irving Zaroff*
- The Maria M. Carter Scholarship:* Guy Harold Robinson, Jr.
- The Isaac Davis Scholarship:* Marilyn Jane Sandwick
- The Charles Worthington Dorsey Memorial Scholarship:* Sheldon Stanley Cohen
- The Elma Lewis Harvey Scholarship:* Nancy Nell Saunders
- The High School Scholarships:* Carolyn Schilian Berk, Jean Elizabeth Carno  
Joyce Marie Cleary, Barbara Anne Dudley, Kenneth Dale Duggin, John George  
Fletcher, Neil Wylie Goodsell, Frank Philip Greene, Gary Edward Greene  
Barbara Ann Guareo, Sara Stelle Haycraft, Richard Scott Hudgins, Richard  
Miles Kaufman, Steven Everett Levy, Katherine Marie MacDonald, James  
Roehm Moffett, Gary Jack Nimetz, John David Oberholzer, Beulah Ransom  
Parker, Jane Ann Pinkard, Ann Madison Reid, John Lane Saiter, Frances  
Roberta Torbert, David Allen Urich
- The High School Discussion Conference Scholarships:* James Orrin Berg  
Audrey Cornelia Smith
- The Law School Scholarships:* Edna Anne Asper, Richard Joseph Fay, Ernest  
Henry Land, Louis John Petta, Garth A. Stephenson, Gary Lloyd Thorne
- The National League of Masonic Clubs Scholarship:* George Walton Buckmaster
- The Newspaper Scholarships:*
- The Evening Star:* William Francis Fuchs, Ellen Powell, Alban Sapilowski
- The Washington News:* Stanley Felder, Walter Scott Wingo
- The Washington Post:* Petra Maria Gorbea, Jerome Paul Kline
- The Paul Pearson Scholarship:* Bruce Caddell (fall term), Francis Richard Mar  
zone (spring term), Emmor Frederick Snyder (spring term)
- The Lula M. Shepard Scholarship:* Gerald LeRoy Watson
- The David Spencer Scholarship:* James Mahan Roamer, Jr.
- The Student Activities Scholarships:* Robert Thomas Allwine, Russell Edward  
Bailey, Urbino Joseph Barreira, Jack Edward Baumgartner, John Crawford  
Beavell, Kenneth Raymond Belliveau, Carl Theodore Bodolus, Joseph Francis  
Boland, William Thomas Boland, Thomas Constantinus Bosmans, William  
Joseph Brown, John Daniel Buckingham, Steve Joseph Burda, John Bruce C  
well, Edward Alexander Catino, Edward Ronald Chiampi, Louis Charles C  
Robert Frank Cilento, Basil L. Ciriello, Voris Ray Conrad, Frank Edward  
Continetti, John Daly, Norbert Earl Danz, Andrew Nathan Davis, Jr., Richard  
James Devlin, Edward Michael Donahue, Norman Martin Drake, Thomas  
Curtis Drake, Robert Lawrence Edenbaum, James William England, Thome  
Stephen Flyzik, William Raymond Fox, Donald Haues Freas, Robert Mar  
Frederick, Howard Frushtick, Richard Mullen Gaskell, Richard Sanford Gibbs  
Henry Waldo Goglin, Robert William Goodwin, Robert Leonard Gutt, John  
Henry Hausmann, Kenneth Hirschfield, Drexel Dean Hoffman, John Frank

Holup, Edmund Krump Hughes, William Valentine James, Charles Anthony Karcutski, Elliot Karver, Joseph Gerard Kennelly, Kenneth Jay Kern, Harry Patrick Kober, Aredis Vahan Kojoyian, Stephen Joseph Korcheck, Bernard Clement Kovach, Andrew Thomas Krupa, Daniel Leviton, Jerry Wendell Marvel, Joseph Robert Masciarelli, Fred Anthony Matani, James Raymond Matthews, Paul Vincent McCormick, James Robert McDonald, John Robert McLindon, Jr., Louis Montemarano, Jr., Ray Clair Murdoch, William Alfred Neal, John Joseph Nedrow, Michael Owen Nolan, Gerald Frederick O'Donnell, Augustine Ortiz, Jerry Joseph Paparella, Robert Joseph Paparella, Robert Leslie Parkinson, Cecil Rapp Perkins, John Stanley Prach, Thomas Hooper Rieley, Donald Francis Ring, Marvin Lee Rowles, Frederick Clarence Samuelson, Kenneth Robert Samuelson, George Edward Semkew, George Fleming Sengstack, John Michael Sestokas, William Miller Shaw, David Hawley Shiver, Michael Anthony Silco, Jr., Larry Silverman, Paul Pearce Smith, Rex Kibler Spaulding, Paul Byron Stroup, Charles Jerome Sweeney, William Leo Szanyi, Richard Preston Tetlow, Jr., John Thomas Tivnan, Arthur Tolis, John Richard Vaile, David Louis Waldron, Robert Louis Walker, Arthur William Winking, Jan Wojtowicz, John James Ziamandanis  
 The Ellen Woodhull Scholarship: Dana Marie Haas  
 The Zonta Club Scholarship: Polly Teed Williams

# PRIZES

1951-52

Alpha Chi Sigma Freshman Awards in Chemistry: Carolyn Schilian Berk, Howard Leslie Bleich, Steven Everett Levy  
 Alpha Chi Sigma Senior Award in Chemistry: Patricia Amelia Reynolds  
 Alpha Delta Pi Award in Scholarship and Leadership: Amy Helene Schaum  
 Alpha Kappa Psi Award in Commerce: Einar Bjorlo  
 American Institute of Chemists Award in Chemistry: Donald Stutler Harmer  
 Martin L. Cannon Memorial Award in Pharmacy: Joseph Vincent Pistone  
 Chi Omega Award in Social Sciences: Grace Chepolis Baisinger  
 John Henry Cowles Awards in Government: Jerome Samuel Hertz, Patricia Ray Stoneman  
 Devitt Clinton Croissant Award for an essay on drama or the theater: Elsa Louise George  
 E. K. Gutter Award in English: Elsa Louise George  
 Delta Zeta Award in Zoology: Thomas Albert Farley  
 Ellsworth Prize in Patent Law: Bernard Jack Cantor  
 Joshua Evans III Memorial Award to that man in the graduating class who has demonstrated his signal ability in the social and political sciences and who has given promise of the interpretation of that ability in good citizenship among his fellows: Richard Rueda, Jr.  
 Alice Fitch Award in Chemistry: Patricia Amelia Reynolds  
 Edward Douglas Goddard Award in American Literature: Donald Wolfe Lief  
 James Douglas Goddard Award in French: Donald Joslin Pearce  
 Morgan Richardson Goddard Award in Pharmacy: Erwin Allen Bondareff  
 Gardiner G. Hubbard Award in Commerce: Einar Bjorlo  
 Wheeler Vest  
 Kappa Kappa Gamma Award in Botany: Carol Yvonne Fuller



*John Bell Lerner Award to that member of the graduating class of the Law School with the highest scholastic standing:* Lewis Tilden Steadman  
*Mortar Board Award to that woman student in the Sophomore Class having the highest scholastic standing of B or higher and the most outstanding record in activities:* Linda Jane Loehler  
*Omicron Delta Kappa Award to that member of the Senior Class, who throughout his course, has done the most constructive work in student activities:* William Parkhurst Smith, Jr.  
*John Ordronaux Award to the member of the graduating class of the School of Medicine with the highest scholastic standing:* Richard Edwin Hutton  
*Phi Eta Sigma Award to the beginning male student attaining the highest scholastic average in his first full term of work:* John George Fletcher  
*Phi Sigma Kappa Award to the winner in the freshman oratorical contest:* Debra Ruth Scherr  
*Pi Beta Phi Award to that member of the Senior Class who, throughout his course, has done the most to promote student activities:* Nancy Tucker Dyer  
*Psi Chi Awards in Psychology:* Milton Burns Cole, Frank Convery Cameron  
*Ruggles Award in Mathematics:* Charles Alvin Bass  
*Sigma Kappa Award in Chemistry:* John George Fletcher  
*James McBride Sterrett, Jr., Award in Physics:* Bernard Leo Kilday  
*Alexander Wilbourne Weddell Award for an essay on World Peace:* Elizabeth Truman Wright

## STUDENT ASSISTANTS

I JUNE 1951 TO I JUNE 1952

*Accounting:* James William Boise, Robert Martin Gartner, Alexander Harnett, Alvin Kornhauser, Timothy Robert O'Leary  
*Biology:* Solomon Albert Danzig (B.S.), Lila Ruth Diamant, James Leon Geyer (B.S.), Ntinos Cleovoulos Myrianthopoulos, Roger Alan Scheriff (A.B.), Joseph Raymond Scott, Jr., Arthur Arden Shachner, Richard Overton Spencer, John Jesse Yarrow  
*Botany:* Elizabeth Carsey Carter, Marlin Alwine Espenshade, Edward Haskin (M.S.), Edward William Huttmire (B.S.), Bernard McKenzie Leese, Jr., Margaret Ann Masters (A.B.)  
*Business Administration:* Wilbur Earle Benson, Robert Dolan (A.B.), Patricia Ann Meyers (A.B.), Donald Ace Spiker, Louis James Tiches  
*Chemistry:* Don Stutler Harmer, Leonard Daniel Pasamanick, Patricia Ann Reynolds, Myra Natalie Rosenthal, Joel Selbin  
*Civil Engineering:* Percy Andros (B.S.), Edmund Crump Hughes, Edward R. Mathews, Ralph Byron Sanders, Harold Stegman, Richard Stirni (B.S.)  
*Economics:* Miriam Isenman Frechtman, Jerome Samuel Grant Polikan, Leonard Howard II, Raymond James Malloy, Robert Grant Polikan, Vivian Carmel Rosenson, Richard Rueda, Jr.  
*Electrical Engineering:* Bethe Davisson, Charles Cotter Gager, William Ashwood Woodriddle  
*English:* Elsa Louise George  
*Geography:* Horace Edwin Storey, Lewis Jasper Winter (B.S.)  
*History:* Anne Chadwick, Richard Coulter Drum Hunt, Jr. (A.M.), Thaddeus Alphonse Lindner (A.B.), Doris Morgan Olzewski (A.B.), Shirley Andrew Preston (A.B.), Walter Withrow Price, Jr.  
*Home Economics:* Helen Chandler, Claire Helwege  
*Journalism:* Joseph Daniel Cullen  
*Mechanical Engineering:* Richard Edward Nearman, Samuel de Guyon Taylor

- Pharmacy*: Alvin Socks Bernstein (A.B.), Erwin Allen Bondareff, Frederick Stephen Firnbacher, Marvin Freedenberg (A.B.), Junius Benjamin Skelton, Roy Edward Snell
- Physical Education for Men*: Ferdinand Sabastian Cardano, Helen Chandler, John Henry De Labar, Evelyn Gannon, Edward Harrison Green, Thomas Robert Henry, Jr., Joseph Gerard Kennelly, Samuel Ralph Portwine, George Edward Semkew
- Physical Education for Women*: Dorothy Claussen (B.S.)
- Physicis*: Howard MacDonald Day, Thomas Albert Farley, John George Fletcher, Carolyn Mac Kistler, Franklin Dean McLernon, John William Savage, Walter Conrad Scott, Arnold Martin Toxen
- Political Science*: Eugene Joshua Becker, Einar Bjorlo, John Joseph Dwyer (A.B., LL.B.), Elizabeth Josephine Harper, Thomas Bradford Hopper, Jr., Gerald Joseph Miller, Hugh Wilson Olds, Eric Waldman (A.B.)
- Psychology*: Helen Leese Biren, Frank Conevery Cameron (A.B.), Edward Engel, Caroline Speer Fisher (A.B.), George Edward Fry, June Virginia Inscoe, Eva Johnson (A.M.), Roger Kaufman, Melvin Kelley, Eileen Bridget McNally, Richard Michaels, Susan Arvay Safer, Charles Skoda, Verna Emily Smith, Norma Thelma Wolpe
- Sociology*: Esther Anne Snyder
- Speech*: Melvin Douglas Epstein, Sara Stelle Haycraft, Janet Wildman Johnson, Edmund Kearney Vertner, Jr.
- Statistics*: George Burton, Jr. (B.S.), Daniel Francis Kelley, Chester Hayden McCall, Jr., Michael Beatty Rowan
- Zoology*: Stanley Morris Bialek, William Bondareff (B.S.), Archibald Gartrell, Jr., Edward Yin Liang, Barbara Elizabeth Mills, Stephen Pappas, Helen Louise Stein, Byron Crosby Woodside

# STUDENTS REGISTERED

SUMMER TERM 1951

FALL AND SPRING TERMS 1951-52

Aaronson, Charles Martin	D.C.	Adams, Elizabeth Forrest
Abbott, Nancy	D.C.	Adams, Eva Bertrand
Abbott, Frank LeRoy	D.C.	A.B. 1928, University of Nevada
A.B. 1939, Central College		A.M. 1946, Columbia University
Abbott, Robert Tucker	Md.	Adams, Frances Parker
B.S. 1946, Harvard University		Adams, Freda Ellen
M.S. 1950, The George Washington University		Adams, Frederick Bradford
Abbott, William George	D.C.	Adams, Harlan Richard
Abce, Robert Vernon	Md.	A.B. 1942, Shepherd College
B.S. 1951, Appalachian State Teachers College		Adams, Hewitt Davne
Abel, Joseph Henry	D.C.	B.S. 1937, United States Naval Academy
Abel, Lydian Patricia	Pa.	Adams, James Cance
Abel, Jane	N.H.	Adams, Melrose Buster
A.B. 1952, College of Wooster		Adams, Nicholas Aaron
Abelson, Esther Marina	Cuba	B.S. 1949, A.M. 1950, University of Florida
Abelson, Maria Luisa	Cuba	Adams, Warren Thomas
A.B. 1951, The George Washington University		B.S. in C.E. 1951, Georgia School of Technology
Abend, Phillip Gary	D.C.	Adams, William Role
B.S. 1951, The George Washington University		A.B. 1951, Stanford University
Abernham, William	D.C.	Adamson, Ray Prover
Abhinavaputra, Dinkurna	D.C.	Adelson, Francis Girault
A.C.S. 1942, Far Eastern University, Philippines		B.S. 1947, Washington and Lee University
Abid, George	Wash. Va.	Adelson, Miriam Paula
Abouneiss, Gloria Ellis		Adelson, Norman Peeling
A.B. 1950, Dunbarton College of the Holy Cross		B.S. 1947, University of Alabama
Aboud, Joseph	Ariz.	Adelman, Anthony Joseph
Abraham, Albert Frederick	Va.	A.B. 1949, Rutgers University
Abrahams, Albert Edward	D.C.	Adlam, James
A.B. 1948, Syracuse University		Adkins, Marjorie Anne
Abrahamson, Mevan		Adkins, Patricia Ann
Abrahamson, Charles	Md.	Adler, Helen Claire
A.B. 1948, LL.B. 1949, The George Washington University	N.Y.	Adelstein, Roy Edward
Abrams, Bernard Weder	Ohio	A.B. in Govt. 1949, The George Washington University
B.L.E. 1941, Ohio State University		Adrian, Alex Cochran
Abrams, Edwin Fred	D.C.	B.S. 1948, Wilson Teachers College
B.S. 1952, The George Washington University		Adrian, Donald Keith
Abrams, Gailena		Anayoff, Theodore Daniel
Abrams, Morris Melvin	D.C.	A.B. in Govt. 1947, The George Washington University
B.S. & C.E. 1950, The University of Maryland		Agnew, John Maurice
Abrams, Yehuda Hillel	Md.	A.B. 1950, Wittenburg College
A.B. in Govt. 1946, The George Washington University		Agnew, John Miller
Abraham, Doris Sylvia	D.C.	Agnew, Nancy Claire
Abrahamson, Robert George	D.C.	B.S. in Ed. 1948, Wilson Teachers College
Abraham, Louis Duane		Agosti, Lando Elmer
Abner, John Fenton	Mass. Tenn.	Agostowicz, Henry Anthony
A.B. 1947, University of Chattanooga		B.S. in Ed. 1947, A.M. in Ed. 1949, The George Washington University
LL.B. 1949, Vanderbilt University		Aharon, Reisman
Alastair, Sydney	N.Y.	LL.B. 1945, University of Teheran
Albright, Claude Michael	Md.	Ahern, Frank Leo, Jr.
Albright, Darrin	D.C.	B.S. in M.E. 1944, Cornell University
Adams, Anne Virginia	Mass. Va.	Ahern, John Francis
Adams, Bert Kennedy		B.S. 1946, Lehigh University
B.S. 1951, American University		Ahern, Willis S.
		B.E. 1947, University of Toledo



# Students Registered

419

Ahlberg, Richard Charles A.B. 1947, Wesleyan University	D.C.	Allen, Carolyn V.	Va.
Ahlfield, George Samuel Ahmed, Ahmad		Allen, Donna Lee	D.C.
Aiello, Henry Joseph	Ill.	Allen, Edward Carlton, Jr. B.S. 1918, United States Coast Guard Academy	Va.
Aiers, Max Neil	D.C.	Allen, Edward Clayton	Md.
Alary, Mildred	Pa.	A.B. 1940, Gettysburg College	
Albano, Eugene	Okla.	Allen, Eileen Annette	Va.
Albee, Edward Gatemuth	D.C.	A.B. 1948, University of Maryland	
Alberghin, Thomas Joseph	D.C.	A.M. 1949, The George Washington University	
Albers, Ruth Max	Va.	Allen, Iola M.	Va.
Albers, Daniel	Md.	Allen, James Morton	Va.
Albert, Harold Franklin	Va.	Allen, Johanna R.	Ill.
B.S. 1950, Mendenberg College	D.C.	Allen, John Edward	Fla.
Albert, Marjorie Florence	Pa.	LL.B. 1950, University of Florida	
Albright, Joseph Gail	D.C.	Allen, John Joseph, Jr.	Md.
B.S. 1949, Northeast Missouri State Teachers College	Mo.	Allen, LaVerne	D.C.
Albright, Louis Claude, Jr.		Allen, Marietta Stowe	Conn.
A.B. 1942, Birmingham-Southern College	Ala.	B.S. 1946, Tufts College	
A.M. 1951, University of Houston		Allen, Marjorie Janet	Oreg.
Albright, Penrose Lucas		B.S. 1942, Oregon State College	
B.S. 1946, United States Merchant Marine Academy	Kans.	Allen, Nancy Leigh	D.C.
A.B. 1949, Southwestern College		Allen, Norval Eugene	D.C.
LL.B. 1949, The George Washington University		Allen, Patricia A.	D.C.
Albright, Elmer Sanford, Jr.		Allen, Phyllis Johnson	Va.
B.S. 1947, Northwestern University	Calif.	Allen, Richard	Va.
Alder, Robert Ames		Allen, Richard Hunter	Md.
Alderman, Beverly Ruth	Ohio	Allen, Richard Vaughn	Md.
LL.B. 1948, Columbia University	Fla.	Allen, Robert Brooke	Md.
Alderson, Walter Stanley	Va.	A.B. in Govt. 1951, The George Washington University	
Alderson, James Boyd, Jr.		Allen, Rosa Jane	D.C.
B.S. 1948, Georgetown University	Md.	A.B. 1950, University of Maryland	
Aldrich, Carlton Evans	Va.	Allen, Scott	Va.
LL.B. 1949, University of Kabul	D.C.	Allen, Temple Spottswood	Va.
B.S. 1950, Pennsylvania State Teachers College Indiana		Allen, Thomas Howard	Md.
Alexander, Anne David		Allen, Thomas Keith	
B.S. 1949, College of the City of New York	D.C.	B.M.E. 1949, The George Washington University	
Alexander, Charles Patrick		Allen, Thorvald Christensen	Maine
A.B. 1949, University of Denver		B.S. 1948, Cornell University	
Alexander, David Paul	Colo.	B.S. 1951, Massachusetts State College	
Alexander, David Paul		Attender, Thomas	Va.
Alexander, Elmer Bell	D.C.	Alex, Victor	D.C.
Alexander, Ione Cora Edge	Va.	A.B. 1949, The George Washington University	
Alexander, Mar Bruce	Md.	Atlee, Barbara Mae	D.C.
Alexander, Marion Thomas	Md.	Atlee, James William	D.C.
A.B. in Govt. 1951, The George Washington University	Calif.	Allinger, Dorothy Ann	Md.
Alexander, Rex L. Jr.		A.B. 1951, The George Washington University	
A.M. 1951, The George Washington University	D.C.	Allison, Edwin Gwin	Md.
Alexander, Sidney Raymond	N.J.	Allison, Esther Fuller	Va.
E.A.F. 1949, New York University		B.S. 1948, Texas College of Arts and Industries	
Allard, Elmer, Jr.	D.C.	Alphin, Joseph Kendall	Mass.
Allan, Verma D.		Almon, William Charles	D.C.
A.B. 1943, L.I.B. 1945, Yale University	Md.	Almopp, Miriam	D.C.
Allen, Arthur Conner	D.C.	Almon, Rose Charles	N.Y.
Allen, Alvan David		Allwater, Robert Thomas	D.C.
		Almarco, Nick R.	D.C.
		Almedia, Virgil Anthony	Va.
		Almon, David Calvin	Ala.
		A.B. 1951, Vanderbilt University	
		Almond, Hy	D.C.
		B.S. 1948, University of Chicago	
		Almy, E. June	N.C.
		A.B. 1951, University of South Carolina	
		Almy, Helen	Md.
		Alperin, Dan	N.Y.
		A.B. 1950, Brooklyn College	

Alpert, Dolores Lorraine	D.C.	Anderson, Lennart A.	D.C.
Alpher, Norman Stanley	D.C.	B.S. 1951, Upsala College	NM
Alspach, Sally Campion	D.C.	Anderson, Lillian Louise	D.C.
A.B. 1951, Cornell University		Anderson, Lois Anne Cheetham	D.C.
Alspaugh, Clarence Henry, Jr.	Va.	B.S. in Ed. 1943, Maryland State	
Alster, Caliste Jay	Ill.	Teachers College	
B.S. 1948, Massachusetts Institute of		Anderson, Martin	Neb.
Technology		B.S. 1951, The George Washington	D.C.
Alterman, Toby Thelma	Md.	University	
Althoff, William T.	Va.	Anderson, Neil Robert	
Altman, Norma Deborah	D.C.	Anderson, Nellie Carr	Va.
B.S. 1951, Northwestern University		A.B. 1941, The George Washington	
Altman, Verna Pearl	Md.	University	D.C.
Altschuler, Morton	D.C.	Anderson, Robert Clinton	Va.
Altschuler, Zalman Samuel	D.C.	B.S. 1938, Roanoke College	
A.B. 1946, Brooklyn College		Anderson, Robert Leigh	A.
M.S. 1947, University of Cincinnati		Anderson, Robert Reynolds, Jr.	D.C.
Altszuler, Norman	Conn.	B.S. 1911, University of Richmond	
B.S. 1950, M.S. 1951, The George		Anderson, Ronald Ray	
Washington University		Anderson, Roy Gene	
Aman, Sidney Joseph	Md.	Anderson, Sidney Dale	
Amber, Ellen Gertrude	Fla.	B.S. 1946, Syracuse University	
Ambrose, Thomas Barton	Ky.	A.M. 1950, University of California	
Ambrosio, William	D.C.	Anderson, Theodore William	SC
Ameringer, Jean Stewart	Va.	B.S. in E.E. 1948, University of	
Ames, Barbara Anne	Va.	Illinois	
Ames, Katherine	Utah	Anderson, Walker Eldon	
Ammar, George Joseph	W.Va.	B.S. 1951, University of South	
A.B. 1952, Morris Harvey College		Carolina	
Amos, Iris Elizabeth	D.C.	Anderson, William Walter	
A.B. 1940, Western Maryland College		Andes, Paul Gowdy	
Amram, David Werner	D.C.	Andia, Julian Frank	
Amsterdam, Melvin Lawrence	D.C.	Andolfatto, Viola Antonette	
Amundson, Glen Loren	D.C.	Andreas, C. Norman, Jr.	
B.S. 1950, University of Minnesota		Andreas, Frank Samuel	
Anagnos, Panagiotis George	Md.	Andrews, A. Storleen	
B.S. 1950, Georgetown University		Andrews, Anna Vaughan	
Anastasiades, Plato	Ohio	Andrews, Forrest West	
Anerberg, Carl Magnus	Sweden	Andrews, Frances Evelyn	
Anders, George Z.	Va.	Andrews, George Rutt	
Andersen, Arthur	N.Y.	Andrews, Mary Lou	
B.S. 1939, New York University		Andrews, Norma Siepmann	
Andersen, Donald George	Nebr.	Andrews, Norman Jacob	
A.B. 1942, University of Nebraska		Andrews, Thomas Harold	
Andersen, Elinor Margaret	Nebr.	Andrews, Thorp Adams, Jr.	
B.S. 1945, University of Denver		Andrews, William Taylor	
Andersen, Haukon Roy	Md.	B.E.E. 1944, The George Washington	
Andersen, Stephen Foss, Jr.	D.C.	University	
Anderson, B. Arvetta	Iowa	L.L.B. 1949, Albany Law School	
Anderson, Benjamin Ernest, Jr.	Md.	Andrews, Dan John	
Anderson, Benlah Robinson	Va.	Andrews, Leonora	
B.S. 1942, Radford College		Angel, Graver LaMarr	
Anderson, Bruce Irwin	Pa.	A.B. 1929, High Point College	
Anderson, Carl Robert	Pa.	A.M. in Ed. 1946, The George	
Anderson, Caroline Lucretia	Va.	Washington University	
Anderson, Charles V.	D.C.	Angel, Jerry Irwin	
B.S. 1948, Ohio State University		A.B. 1951, The George Washington	
Anderson, Earl Edward	W.Va.	University	
B.S. 1940, A.M. 1940, West Virginia		Angelaras, James George	
University		B.C.E. 1949, The George Washington	
Anderson, Edmond Ralph, Jr.	Ohio	University	
A.B. 1948, Ohio State University		M.S. in C.E. 1954, University of	
Anderson, Hayward Hunter	D.C.	Maryland	
Anderson, Helen Pauline	Mo.	Angell, Roy Kenneth	
B.S. 1941, Southwest Missouri State		B.S. 1946, United States Coast Guard	
College		Academy	
Anderson, Henry Clay	Va.	Angelo, Patricia Wilson	
Anderson, Ira Daniel	Va.	Angers, William Paul	
Anderson, Jack Northman	Md.	A.B. 1947, Providence College	
Anderson, Jane	W.Va.	A.M. 1948, Catholic University of	
Anderson, Jean Alice	Conn.	America	
Anderson, John Thomas	Ill.	Ph.D. 1950, University of Montreal	
Anderson, Kenneth Arthur	Md.		

## Students Registered

421

Angle, Elizabeth Montague A.B. in Ed. 1940, A.M. in Ed. 1943, The George Washington University	D.C.	Arice, Leonard Phillip Ph.B. 1930, J.D. 1932, University of Chicago	Ill.
Angstead, Ruth Evangel B.S. in Ed. 1928, University of Kansas	Mo.	Arlotta, Russel Anthony	N.Y.
A.M. 1946, Columbia University		Armbrust, William Walter	Nebr.
Anning, Charles Sydney	D.C.	Armentrout, Charles Edwin	D.C.
Annis, Helen Woodburn	Md.	Armijo, Anthony Jose	N.M.
B.S. 1930, Muskingum College		A.B. 1940, A.M. 1941, University of New Mexico	
Anni, Robert James	Mich.	Armire, Jack E.	N.Y.
L.L.B. 1951, The George Washington University		B.S. 1936, Brooklyn College	D.C.
Ansell, Edward Orin	Wis.	Armstrong, Charlotte Orr	
B.S. in E.E. 1948, University of Wisconsin		A.B. 1941, Radcliffe College	Va.
Anshel, Adeline	N.Y.	Armstrong, Dicie Fishback	Pa.
B.B.A. 1949, College of the City of New York		Armstrong, George Duff	
Anshel, Harold	N.Y.	A.B. 1950, University of Pittsburgh	Md.
L.L.B. 1939, Brooklyn College		Armstrong, Mary Emma	
L.L.B. 1951, The George Washington University		A.B. 1947, Oberlin College	Idaho
Anshel, Norton	N.Y.	Armstrong, Richard Merrill	
B.F.E. 1949, The George Washington University		B.S. 1950, University of Idaho	
Anshel, Henry Wilbur	D.C.	Arnald, Rosalie Bryant	Md.
Anstead, Roy James	D.C.	Arndt, Shirley Anne	Va.
Antolin, Cleo	D.C.	Arner, Frederick Bates	D.C.
Anton, Ruth Martha	Iowa	A.B. 1947, Kenyon College	Va.
Antonelli, Frances Anthony	D.C.	Arness, John Allan	Va.
Antonson, Eva Beanie	D.C.	Arnn, Jean Elizabeth	Mich.
Antonson, Lucy Denise	D.C.	Arnold, Dorothea	N.C.
Antonoff, Nicolas, Jr.	D.C.	Arnold, John Dunn, Jr.	S.C.
Anton, Henry Josef	D.C.	Arnold, Lena Dot	D.C.
Aoki, Deores	Va.	Aron, Howard	D.C.
Aparr, Herbert Leroy	Wash.	Aronson, Ellis Smiler	D.C.
Aparr, Adolfo Henry	Va.	Aronson, Frances Bernice	D.C.
Aparr, Joseph Ronald	D.C.	Aronstein, Jennie Goodman	N.J.
B.S. in Ed. 1941, Pennsylvania State Teachers College, Bloomsburg	Pa.	Arret, Bernard	
Appel, Oliver Leo	Wis.	B.S. 1941, College of the City of New York	Ohio
Appel, James Dunford	Md.	Arrick, Alma Arlene	Md.
B.S. in M.E. 1949, Pennsylvania State College		Arrington, John Harold	
Appel, Lela	D.C.	A.B. 1949, Yale University	D.C.
Applegate, David Carl	Calif.	Arshawsky, Frank	Mo.
A.B. 1950, University of California		Arthand, Richard Edward	
Appelman, Herbert Stanley	D.C.	B.S. in C.E. 1944, University of Missouri	
M.S. 1940, University of Illinois		Arthur, Constance Clarke	N.Y.
Appelstein, David	D.C.	Arthur, Frank Melvin	Va.
A.B. 1945, The George Washington University		Arthur, John Joseph	D.C.
Appelstein, Geraldine	N.Y.	Arthur, Norma M.	N.Y.
Appelstein, William Gerson	D.C.	B.S. 1945, Syracuse University	N.J.
Apier, Ronald Allen	N.Y.	Arvanetes, John	N.Y.
B.F.E. 1950, College of the City of New York		Asch, Mildred Blanche	Pa.
Archibald, Stanley	Pa.	A.B. 1948, Hunter College	
A.B. 1941, Yale University	N.Y.	Ash, Lane Cook	Calif.
Archibald, John Harold		B.S. 1927, M.S. 1935, University of Pennsylvania	
B.S. 1945, University of Maryland		Ashby, Don	D.C.
Archibald, Mary Margaret	Md.	A.B. 1941, University of Iowa	
Archibald, Rose	Md.	Ashby, Helen	D.C.
Arant, Violet Faith	N.Y.	B.S. 1947, Northwestern University	D.C.
Arerakin, Alex Nicholas	D.C.	Ashby, Wallace L.	
Arro, Elmer June	D.C.	A.B. 1947, The George Washington University	
Arro, Sidney Edgar	Md.	Ashley, Robert Frederick	Tex.
A.B. in Civet 1952, The George Washington University	Md.	Ashton, Fleming	Va.
	Md.	Ashworth, Charles Raymond	Idaho
	D.C.	Asin, Hyman	D.C.
		Asper, Edna Anne	Pa.
		A.B. 1950, University of Pittsburgh	
		Ataer, Celestine	Turkey
		Athamaleus, Helen Nota	N.C.
		Athamasiades, Athan Joseph	Greece
		Atkeson, Timothy Breed	D.C.
		A.B. 1947, Haverford College	
		Arkin, Harry	D.C.
		Atkins, Constance	Md.



Atkins, Craig Starbuck, Jr.	D.C.	
Atkins, John Dillard, Jr.	Va.	
B.S. 1940, North Carolina State College		
A.M. 1940, The George Washington University		
Atkins, Norman Louis	Va.	
A.B. 1951, The George Washington University		
Atkinson, Roderick Dhu	Va.	
A.B. 1950, The George Washington University		
Atkinson, William	D.C.	
Attis, Evelyn Louise	D.C.	
Atwill, Walter Scott	Md.	
Atwood, Martha Louise	N.Y.	
A.B. 1951, University of Vermont		
Audia, William Vincent	D.C.	
August, Frank Joseph	Va.	
B.S. in Phys. Ed. 1943, A.M. 1947, The George Washington University		
Ault, Dale Eugene	Ohio	
Ault, John Miller	Va.	
Aurinner, Irene Elinor	Va.	
A.B. 1950, Gustavus Adolphus College		
Auslander, Sondra Claire	D.C.	
Austin, Carroll Wayne	N.C.	
Austin, Edwin Coeswell	Va.	
Austin, Maude Savage	Va.	
B.S. 1940, Maryland State Teachers College		
Austin, Robert Earl	Fla.	
E.E. 1950, Pennsylvania State College		
Avellar, Karl B.	Va.	
Averier, Jules Malcolm	D.C.	
B.S. in Ed. 1949, Indiana State Teachers College		
Avery, Helen Jane	Va.	
A.B. 1940, Butler University		
Avery, Margaret Anne	Va.	
A.B. 1931, M.S. 1931, University of Michigan		
Avery, Mary Virginia	Calif.	
Avey, John Jacob Jr.	Va.	
B.S. in Bus. Adm. 1940, Lehigh University		
Avin, Martin	N.Y.	
B.S. 1934, Brooklyn College		
L.L.B. 1937, Harvard University		
Awad, Joseph Frederick	D.C.	
A.B. 1951, Georgetown University		
Awtry, James Dewey	Fla.	
Axtell, George Clifton	Pa.	
Ayapa, Cheevakapuvanda Bhimaya	India	
Avatar, Hazim	D.C.	
Ayer, Donna Jane	Wyo.	
Ayers, Albert Wright, Jr.	Va.	
A.B. 1950, College of William and Mary		
Ayers, June Elizabeth	Ill.	
A.B. 1946, The George Washington University		
Ayers, Kindrel Navarre	Fla.	
B.S. 1941, United States Coast Guard Academy		
Aylzian, Arsen	D.C.	
Ayres, James Edward	Calif.	
Azurin, Remedios Acosta	D.C.	
L.L.B. 1938, University of the Philippines		
Babb, Eugene Campbell	B	
A.B. 1950, The George Washington University		
Babcock, George Russell		
Babcock, Robert Lloyd		
Baber, Avis Anna		
Babest, Peggy S.		
Babigan, Janet Ruth		
Rabinski, Matthew		
B.S. 1949, Worcester Polytechnic Institute		
Babione, Margery May		
Bach, Joseph John	British Guiana	
Bacchus, Habeeb		
B.S. 1947, Howard University		
M.S. 1948, Ph.D. 1950, The George Washington University		
Bacchus, Joan Ruth		
Bache, Anne		
A.B. 1946, Florida State University		
Bachman, Barbara		
Bachrach, Morton Weisel		
B.S. 1947, Roanoke College		
Backs, Dorothy Marie		
Bacon, John William		
B.S. 1950, Cornell University		
Bacon, Nancy Evelyn		
A.B. 1947, University of Chattanooga		
Baden, Francis DeSales		
Baden, Michael		
Baden, Vincent Joseph		
Bahadur, Suraj Shumshere Jung		
H.S. 1944, Cambridge University, England		
B.S. 1945, Punjab University, India		
A.B. 1947, Ohio Northern University		
A.M. 1949, Ohio State University		
Baham, James Arthur		
A.B. 1950, DePaul University		
Bahr, Clarence Leo, Jr.		
Bahr, Robert Dennis		
B.S. 1950, University of Wisconsin		
Baiardo, Sara		
Baicker, Joseph A.		
B.S. 1950, Yale University		
Bailey, Arthur Edward		
Bailey, Barbara Adair		
Bailey, Charles Robert		
A.B. 1950, The George Washington University		
Bailey, Clarence M., Jr.		
B.S. 1948, College of William and Mary		
Bailey, Helen Travers		
Bailey, Joseph Fortune		
Bailey, Lorraine		
Bailey, Margaret Allison		
A.B. 1949, The George Washington University		
Bailey, Margaret Lucille		
Bailey, Mary Belin		
B.S. 1926, Converse College		
Bailey, Milton Julian		
B.S. 1949, University of Minnesota		
Bailey, Owen Walter		
A.B. 1948, Colby College		
Bailey, Russell Edward		
Bailey, Wilma Althea		
B.S. in Ed. 1944, Pennsylvania State Teachers College, California		
Baily, J. Edgar		

# Students Registered

423

Bain, Harold Emerson B.S. 1932, University of Alabama	Ala.	Balli, Carl Eugene A.B. 1930, The George Washington University	Fla.
Bain, Richard Carlisle B.S. 1937, Columbia University	Va.	Ballinger, Eleanor Marion B.S. 1949, University of Maryland	Md.
Bair, Robert Francis B.A. 1937, University of Maryland	N.Y.	Balogh, Agnes Margaret D.C.	D.C.
Bair, George Chepolis B.S. 1941, University of Maryland	D.C.	Balogh, James Jr. D.C.	Md.
Baker, Alice Page Jr. B.S. 1941, University of Maryland	Md.	Balogh, Stephen Elmer, Jr. Balsley, Beverly Ann	D.C.
Baker, Bobbie Gene B.S. 1948, Ohio State University	S.C.	Balster, Vernon Henry A.B. 1947, Concordia Seminary	Mich.
Baker, Bruce Remond B.S. 1948, Ohio State University	Md.	Balukovich, James Joseph Bulzer, Clayton Paul	Ill.
Baker, Carl Wilfred B.S. 1948, Ohio State University	Ohio	Bamber, Richard Camille Bansberger, Fred Hans	N.H.
Baker, Clyde Hopper A.B. 1937, Berea College	D.C.	LI.B. 1922, LI.M., J.U.D. 1924. University of Heidelberg	Ind.
Baker, Dorothy Anderson B.S. 1941, Berea College	D.C.	Bancroft, Raymond Lowell Band, Bernard Alvin	R.I.
Baker, Edward Welch B.S. 1941, Berea College	D.C.	Bandy, Alva Horlan B.S. in C.E. 1947, Kansas State College	D.C.
Baker, F. Neil B.S. 1941, Berea College	Md.	LI.B. 1949, Washburn University LI.M. 1951, The George Washington University	Kans.
Baker, Harold Leon B.S. 1941, Berea College	N.J.	Bane, Howard Thomas Bartfield, Charles Fred	Va.
Baker, Jack B.S. 1941, Berea College	Tenn.	Baskin, Andrew Baskovsky, Nicholas Peter	D.C.
Baker, Jack Barton A.B. 1942, University of Kentucky	D.C.	Banks, Arthur Sparrow A.B. 1941, Cornell University	Pa.
Baker, James Lockhart B.S. 1941, University of Maryland	Ky.	Banks, Leah Ruth Banks, Minnie	Mass.
Baker, John Barth A.B. 1941, University of Maryland	Md.	B.S. in Ed. 1916, Madison College A.M. in Ed. 1947, The George Washington University	N.C.
Baker, Robert Clifford A.B. 1941, University of Minnesota	Md.	Bannock, Albert Peter Banner, Roy Roscoe, Jr.	D.C.
Baker, Robert Ellsworth B.S. 1942, M.D. 1924, Ohio State University	Wash.	A.B. 1916, John Marshall College A.M. 1947, University of New Mexico	Pa.
Baker, Virginia Lee A.B. 1941, College of Wooster	Ohio	LI.B. 1939, Georgetown University LI.M. 1941, The George Washington University	Calif.
Baker, Walter Lee A.B. 1941, College of Wooster	D.C.	Bannerman, Benny Levi Bannister, Preston Monroe, Jr.	N.M.
Baker, William Clinton A.B. 1941, College of Wooster	Pa.	Baptiste, Marc Baskat, Dhuwar Hassan	Mass.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	Baskat, Karem Hassan Baratta, Anthony Vincent	Egypt
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	B.S. in Phil. 1930, B.S. 1931, St. John's University	N.Y.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	Baratta, Michael Vincent A.B. 1949, Columbia University	N.Y.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	Barbee, Ruth Stone Barbee, William Clifford	Md.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	A.B. 1947, The George Washington University	Va.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	Barbetta, Regina Theresa Barber, Alvin Thomas	D.C.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	B.S. 1941, Sanchanna University Barber, Lloyd Morris	Pa.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	Barber, Theodore Xenophon Barber, Louis Joseph	Ala.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	B.B.A. 1947, College of the City of New York	D.C.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	Barclay, Catherine B.M.A. 1928, Knox College	D.C.
Baker, William Clinton A.B. 1941, College of Wooster	D.C.	B.F.A. 1942, University of Nebraska	D.C.

Bardach, Henry A.B. 1948, The George Washington University A.M. 1951, University of Pennsylvania	Va.	Baron, Sidney A.B. 1947, Long Island University A.M. 1949, Columbia University	N.Y.
Barden, Charles Stanford	D.C.	Baroody, Theodore Joseph	Calif.
Barensky, Frances A.B. 1948, The George Washington University	D.C.	Barquin, Ramon M.	Tex.
Barger, Herman Harolyde A.B. 1937, Harvard University	Mass.	Barr, Betty A.	Ind.
Barges, Alexander	Calif.	Barr, Brady Garland	
Bargh, Pickard Fowler	Va.	Barr, John L.	
Baril, Dora Marie	D.C.	A.B. 1939, Harvard University LL.B. 1947, The George Washington University	
Barish, Joseph	D.C.	Barr, Marie Ann	
Barkas, Jerry Peter B.S. 1949, Davidson College	N.C.	Barr, Robert Williams	
Barker, Dorothy Johnson	D.C.	Barr, Solomon Efreim	
A.B. 1934, San Francisco State College		A.B. 1951, The George Washington University	
Barker, Fowler W.	D.C.	Barreira, Urbino Joseph	Calif.
Barker, Jimmy Lee	Calif.	Barrett, Florence Catherine	
Barker, Joe C.	Okla.	Barrett, James Dewey, Jr.	
Barker, Jonathan Arnold	Va.	Barrett, John Edward	
Barker, Marion Woodard	N.C.	B.B.A. 1950, Loyola University	
Barker, Nancy Louise	Md.	Barrett, John William	
Barkin, Gilbert Donald	D.C.	Barrett, William Harbour	
B.S. 1949, The George Washington University		Barrick, Donald Michael	
Barkley, Anne Marie	D.C.	Barron, Edwin Selwyn	
A.B. 1941, New York University		A.B. 1949, College of William and Mary	
A.M. 1943, Columbia University		Barron, Pauline Eva	
Barley, Martin Alan	D.C.	A.B. in Ed. 1946, Shepherd College	
Barlow, Bill Ray	Ohio	Barron, Reginald Arnold	
Barlow, Shirley	Mass.	B.S. in C.E. 1935, Northeastern University	
Barnaby, John Glennon	Mass.	Barrow, Samuel Wheeler, Jr.	
A.B. 1944, Middlebury College		Barry, Florence Gause	
B.S. 1944, Massachusetts Institute of Technology		Barry, John Anthony	
Barnard, LeRoy Hanson, Jr.	Va.	Barry, John Michael	
Barnard, Robert Hamilton	Md.	Barry, Madeleine Barrymore	
Barnes, Christopher Conkling	Va.	Barry, Neville J.	
Barnes, Donald Frederick	D.C.	Barry, Vanna	
Barnes, Howard Emerson	Md.	Barshis, Edward Benedict	
B.S.E. 1933, University of Florida		Bartell, Robert McCandlish	
Barnes, Jean R.	Md.	B.S. 1950, Ohio State University	
A.B. 1951, University of Maryland		Barth, Violet Summers	
Barnes, Joane Lee	D.C.	B.S. 1937, Southeast Missouri State College	
Barnes, Joanne Louise	Va.	Barthowski, Florence	
Barnes, Kenneth Clark	D.C.	Barton, Fred Hubert	
Barnes, Robert Dean	Mo.	A.B. 1938, German State Real Gymnasium, Pilsen, Czechoslovakia	
B.S. 1940, University of Missouri		Barton, Robert Wharton	
Barnett, Austin Hill, Jr.	Ga.	Bartsch, John Edward, Jr.	
B.S. 1940, United States Naval Academy		Bartsh, Herbert T.	
Barnett, Charles Maxwell	Colo.	Barnchan, Belle	
Barnett, Robert Alexander	D.C.	Barnchin, Joan	
A.B. 1940, The George Washington University		Barvo, Jorge	
Barnett, Thomas Mather	Colo.	A.B. 1949, University of São Paulo	
Barny, Shirley Isabel	Vt.	Barwick, James Henry, Jr.	
A.B. in Ed. 1943, University of Vermont		Barwick, Joel Richard	
Barnhard, William Harry	Va.	A.B. 1950, The George Washington University	
Barnhart, Arthur Gooding	D.C.	Barwick, Ronald	
A.B. 1940, The George Washington University		Basar, Vahit	
Barnhart, John Hoffman	D.C.	Basham, Anne Layton	
Barnhill, William James	Va.	Basham, Aubrey Norris	
Barnhorst, Harry Robert	Va.	Basham, Frances Alma	
Barnhouse, Charles Robert, Jr.	Md.	Bashore, Richard Albert	
Barnhouse, Darwin Collier	Va.	A.B. 1951, University of California	
Baron, Florence	Va.	Basile, Anthony Stephen	
		Baskin, Alan Irwin	
		A.B. 1949, Pennsylvania State College	
		Bass, Charles Alvin	
		Bass, Earl Jay	
		A.B. 1950, Catholic University of America	



Ellis, Esther Kernosh M.S. 1944, University of Pennsylvania	D.C.	Baxtrum, George Peter B.S. 1944, Wisconsin State Teachers College, Superior	Wis.
Emminger, Oliver Herbert LL.B. 1936, Marquette University	Wis.	Bayer, Frederick Merkle B.S. 1948, University of Miami	Fla.
LL.M. 1947, The George Washington University		Bayer, Ralph Robertson B.S. 1948, Ohio State University	Md.
Emman, David Charles A.B. 1949, University of Maryland	D.C.	Bavles, Barney Elshia Baylison, Richard Norman	Md. N.Y.
LL.B. 1950, The George Washington University		Baylor, Ralph Ellsworth Baylor, Robert Nelson	Md. Md.
Eise, Wendell Morris A.B. 1941, University of Nebraska	W.Va.	B.S. 1949, University of Texas	
LL.B. 1947, University of Virginia		Baylor, Warner Lewis	Va.
Emm, William Joseph Emminger, Jeanne M.	W.Va.	Bayon, Harry	Va.
Emminger, May Jean A.	Va.	Bazemore, Donald	Va.
Emminger, Antonio William	D.C.	Beach, John George	Ohio
Emminger, William Francis	D.C.	A.B. 1951, University of Miami	
Eaton, William Raphael	N.Y.	Beach, Kenneth Herbert	Ohio
Eaton, Dorothy Ann	Md.	A.B. 1951, The George Washington University	
Eaton, Dorothy May	D.C.	Beach, Lillian Estelle B.S. 1942, Longwood College	Va. Okla.
A.B. 1957, Western Teachers College, Kentucky	Conn.	Beard, James Ralph B.S. 1949, LL.B. 1951, University of Oklahoma	
Eaton, Ward Pendleton A.B. 1949, Trinity College	D.C.	Beale, Edward Joseph	D.C.
A.M. in Ed. 1950, The George Washington University	Md.	Beale, Thomas William, Jr.	Ky.
Eaton, Wayne Emerson		Beall, Elizabeth Ann	D.C.
Eaton, Richard Franz	Md.	A.B. 1949, The George Washington University	
Eaton, Donald Purdy	Md.	Beall, Hazel Rachel	W.Va.
Eaton, Victor, Jr.	D.C.	Beamer, Alan Leroy	Va.
Eaton, Mary M.	Calif.	B.S. 1945, Pennsylvania State Teachers College, California	
Eaton, N. Ruth	N.C.	Bear, Frederick James B.S. 1947, Miami University	Mich.
Eaton, Frederick Hugh, Jr.	N.C.	Bear, Robert Judy B.S. 1949, Cornell University	D.C.
Eaton, Anne Forand	Va.	Beard, Alexander Robertson A.B. 1950, University of Virginia	Pa.
Eaton, Howard Heath	D.C.	Beard, Elizabeth Louise A.B. 1949, Bridgewater College	Md.
Eaton, Eleanor Frances	D.C.	Beard, James Orrin	Va.
Eaton, Frederick Albert	Md.	Beard, Marilyn Joanne	Ohio
A.B. 1951, Western Carolina Teachers College	D.C.	Beardmore, Walter Harvey	Md.
Eaton, John Russell A.B. 1948, University of California	D.C.	Beardsley, James Henry	Md.
Eaton, Joseph Tucker		Beary, Allan Raymond, Jr.	Md.
Eaton, Marvin Hamilton	Tenn.	Beary, Franklin David B.S. in E.E. 1943, Duke University	Va.
BS in E.E. 1949, Massachusetts Institute of Technology	Ga.	Beasley, Derwood Marice	Tex.
M.S. in E.E. 1950, University of Illinois	N.Y.	Beasley, Philip Gene A.B. 1949, Washington University	Ill.
Beck, Norman A.B. 1948, Bucknell University	Va.	Beatty, Eleanor	D.C.
Beckman, Robert Coile A.B. 1951, University of Maryland	Va.	A.B. 1944, Bryn Mawr College	
Beckman, Shirley Mae	Va.	Beatty, George Calvin	Va.
Beckman, Pearly Lorenzo	Md.	Beatty, Sara	D.C.
A.B. in Ed. 1927, University of North Carolina	Va.	Beauchamp, Gerson Eli A.B. 1941, University of Puerto Rico	D.C. N.Y.
Beckman, Jack Edward BS 1949, Maryland State Teachers College	Va. Md.	A.B. 1951, The George Washington University	
Beckman, Molly Lombard		Beaver, Carol Westbrook A.B. 1950, The George Washington University	D.C.
Beckman, Lester Allen	Va.	Beaver, Rubie Ellen	Va.
Beckman, Elise Dorothy	Va.	Beazell, John Crawford	Pa.
A.B. 1944, Brooklyn College	Mo.	Beazley, Charles Paskel	Va.
Eaton, David Louis	N.Y.	Beazley, Maurice Fitzhugh, Jr.	Va.
A.B. 1937, St. John's University	Md.	Bebar, Arthur Maurice	Md.
		Bechtold, F. De Vere	Ind.
		Bechtoldt, Cletus Joseph B.S. 1950, The George Washington University	Ill.

Beck, Donald Michael	Va.	Bell, Donald Raymond	Va.
Beck, Hugo Michael	D.C.	A.B. 1948, College of Wooster	Va.
B.S. 1951, The George Washington University		Bell, Forrest Horatio	Va.
Beck, Lois Thiel	D.C.	Bell, Henry Sander	Va.
Beck, Mary Joan	Conn.	Bell, James Herbert	Md.
A.B. 1951, Trinity College		Bell, Joseph Edison	Md.
Beck, Richard Allen	Ind.	Bell, Mary Jane	Md.
Becker, Anita Keroes	D.C.	Bell, Myrtle Glenna	D.C.
Becker, Arlene Berlin	Va.	Bell, Sylvia	D.C.
A.B. 1948, The George Washington University		Bell, William Salisbury	Md.
Becker, Donald Paul	Pa.	Bellak, Joseph Michael	Conn.
Becker, Eugene Joshua	N.Y.	Bellavance, Roland Gregory	
A.B. 1951, The George Washington University		Beller, Margaret Anne	N.J.
Becker, Joan Christine	Md.	Bellin, Robert Lewis	Va.
Becker, Joseph	Md.	A.B. 1949, Norwich University	Va.
A.B. 1950, The George Washington University		Belliveau, Kenneth Raymond	Md.
Becker, Matthew Leonard	Pa.	Belkomy, Bruce Ben	Pa.
B.S. 1949, University of Pennsylvania		Belmore, Daniel Andrew	Pa.
Becker, Robert Raymond, Jr.	D.C.	Belson, William Walter	Md.
Beckett, William Wells	Md.	Belt, Charles Vernon	Md.
Beckh, Lislotte Marie Luise	D.C.	Belt, Lloyd Kenneth	Va.
Beckler, Seymour	D.C.	Beltz, Roy Eugene	D.C.
Beckman, Helen Vinall	Maine	Beltz, Eric Stuart	
Beckman, Seymour Ames	N.Y.	Bement, George, Jr.	Md.
Beckwith, Marion Casey	N.Y.	Bemis, Cynthia Marshall	Md.
Ed.B. 1948, Rhode Island College of Education		A.B. 1944, Colorado College	
A.M. in Ed. 1951, The George Washington University		Ben Aboud, El Mehdi	Md.
Beckraft, Clarence Edwin	Md.	Benach, Nina Libertas	Md.
Bedsole, Dan T.	Tex.	Bendall, John Norris	D.C.
A.B. 1951, Anderson College		Bender, Fred William, Jr.	Ind.
Bedwell, Ernest William	Kans.	Bender, John Joseph	N.J.
Beeler, Robert Gilman	Fla.	Bender, Marian Kay	D.C.
Beery, Robert Eugene	Ky.	Benderly, Lenore Walter	
Beerstein, Ruth	D.C.	Benedict, James Thomas	
Beers, John Sturges	D.C.	Benedict, Thomas Reilly	
Beese, Edward Thomas	Oreg.	Benfer, Neil Alfred	D.C.
Beesley, Margaret	Pa.	B.S. 1948, Bucknell University	
Beets, Donald Edwin, Jr.	Va.	M.S. 1951, Pennsylvania State College	
B.S. 1951, Georgetown University		Bengston, Martha Jean	Philad.
Beets, Robert Thomas	Va.	A.B. 1951, Nebraska Wesleyan University	
Behart, Sylvia	Colo.	Bentley, Leila Rosario	
B.S. 1949, Wilson Teachers College		Benjamin, Judith Ann	
Behrens, Charles Donald	Mont.	Benjamin, Vernon Edgar	
A.B. 1950, Montana State University		Benner, Barbara Louise	
Becker, Joseph Robert	Pa.	Bennett, Carter Lowe	
Becker, Robert Joseph	Md.	B.S. 1951, United States Naval Academy	
Beckman, Christian William	D.C.	M.S. 1942, Massachusetts Institute of Technology	
Beck, Robert	D.C.	Bennett, Daniel Arthur	
Beckler, Jean Kessler	Va.	M.F. 1950, Stevens Institute of Technology	
A.B. 1947, Emerson College		H.B. 1944, I.S.D. 1946, Brooklyn Law School	
Beidler, Julius Reginald	Va.	H.B. 1948, Dallas Law School	
A.B. 1948, University of Maryland		Bennett, Harry Bates	
Belanger, Robert Joseph	D.C.	Bennett, Helen Marie	
Belcher, Carl William	Ky.	Bennett, Lawrence H.	
A.B. 1948, Duquesne University		A.B. 1951, Brooklyn College	
Bell, Elizabeth Nerdin	Md.	Bennett, Mary Mancom	
Bell, Leonard	N.Y.	Bennett, Nelson	
B.M.E. 1949, Cooper Union		Bennett, Rounta Rick	
Bell, Arthur Edwin	D.C.	A.B. 1951, A.M. 1950, University of Maryland	
Bell, Carl Donald	Md.	Bennett, William Batchelder	
A.B. 1946, A.M. 1948, University of Maryland		B.S. 1935, University of New Hampshire	
Bell, Charles William	Md.	A.M. 1936, Ph.D. 1941, Louisiana State University	
Bell, Clyde Lawrence, Jr.	Md.		
Bell, Colles Wood, Jr.	Md.		
A.B. 1947, Princeton University			

### Students Registered

427

Students Registered			427
Bernick, George Michael, Jr.	D.C.	Berman, Alvin Luther	Md
B.A. 1945, The George Washington University		A.B. 1947, LL.B. 1949, Syracuse University	
Bernick, Harry Miller	Va	LL.M. 1948, Harvard University	
B.S. 1941, University of Michigan		Bernhard, Edward Bernard	Md
Bernick, Mary Helen	D.C.	A.B. 1948, A.M. 1950, Ph.D. 1951, Harvard University	
Bernick, Robert Roy	Tex	Berman, Hyman	N.Y.
B.S. 1941, 1951, University of Virginia	Ind	A.B. 1949, The George Washington University	
Bernick, Walter Earle	D.C.	Berman, Robert Morris	Mass
A.B. 1951, The George Washington University		B.S. 1949, Harvard University	
Bernick, Howard Edward	Ill	Bennett, Stanford Warner	D.C.
B.S. 1941, United States Naval Academy		B.S. in M.E. 1950, University of Maryland	
Bernick, Roland Almona John	R.I.	Bennett, Stephen	D.C.
B.S. 1951, American University		Bernard, Eugene Louis	Ohio
Bernick, George Vernon, Jr.	N.Y.	A.B. 1947, Ohio State University	
B.S. 1941, Johns Hopkins University	D.C.	Bernard, Joseph Alfred	Va
Bernick, Helen Louise	Pa	Bernard, Kenneth	D.C.
B.S. 1941, University of Pennsylvania		B.S. 1947, Massachusetts Institute of Technology	
Bernick, Harry Edward, Jr.	Calif	Berndt, William John, Jr.	D.C.
B.S. 1941, Oregon State College		Bernhardt, Max Giesner	Md
Bernick, W. Mark of Penzance	Alaska	Bennett, Clarence Isaac	D.C.
A.B. 1941, University of Alaska		Bennett, Joseph John	Pa
Bernick, William Miller	D.C.	B.S. 1947, The George Washington University	
B.S. 1941, The George Washington University		Bernstein, Alvin Sacks	D.C.
Bernick, George Donald	D.C.	A.B. 1950, University of Maryland	
Bernick, Mary	D.C.	Bennett, Morton Hannah	N.Y.
Bernick, Richard Monroe	Tex	A.B. 1950, Mount Holyoke College	
A.B. 1941, Rice Institute		Bernstein, Norman	D.C.
Bernick, Robert	D.C.	Bernstein, Philip	D.C.
B.S. 1941, Wilson Teachers College		Bernstein, Richard L.	Va
Bernick, Robert	N.J.	Bernstein, Morton Elliott	Md
B.S. 1941, George College		Bernstein, Marc Alde	Md
Bernick, Robert Andrew	Ill	A.B. 1947, Babcock College	
B.S. 1941, University of Maryland	Va	A.M. 1947, Washington University	
Bernick, Robert	D.C.	Bernstein, Edgar Maria	D.C.
B.S. 1941, University of California	Calif	Berry, A. C. Conrad	Md
Bernick, William John		Berry, Charles Robinson	Tex
Bernick, William Hunter	Va	Berry, Donald Raymond	Va
A.B. 1941, Washington College	D.C.	Berry, Jack Aloysius	Ill
Bernick, William	D.C.	Berry, Jack Varnish	Ark
A.M. 1941, State College of Wash.		B.S. in M.E. 1946, University of Arkansas	
Bernick, Robert T.	Md	Berry, Seymour	
A.B. 1941, University of Maryland		A.B. 1941, The George Washington University	
Bernick, Robert Henry, Jr.	D.C.	Berson, Harold Ralph	Nev
B.S. 1941, University of Michigan	Md	A.B. 1949, The George Washington University	
Bernick, Roger Heaner	D.C.	Berson, Seymour Arthur	N.J.
B.S. 1941, University of Michigan		B.S. 1947, Tulane University	
Bernick, Robert Hunter	Md	Berenson, Helen N. Martha	Pa
B.S. 1941, The George Washington University	D.C.	Berenson, Norman Christian	D.C.
Bernick, Thomas H.	D.C.	Berenson, Harry William	Va
B.S. 1941, The George Washington University		Berenson, Clarence Howell	Md
Bernick, Thomas	D.C.	Berenson, Robert Gorm	Va
B.S. 1941, University of Maryland		Berenson, Martin M.	D.C.
Bernick, Thomas Leonard	D.C.	Berenson, Stephen Stephen	D.C.
B.S. 1941, College of the City of New York	N.Y.	Berenson, Thomas Leona	Va
Bernick, Thomas	N.Y.	Berenson, Harold Lloyd	Va
A.B. 1941, Brooklyn College		A.B. 1949, A.M. 1951, The George Washington University	
Bernick, Thomas	D.C.	Bert, John Henry	Va
B.S. 1941, College of the City of New York	D.C.	Bert, Lee James	N.C.
Bernick, Thomas	Md.	Berthold, Valerie C.	Md
A.B. 1941, Seymour Sanford		Betty, Samuel David	Md
A.P. 1941, Western Reserve University		A.B. 1947, San Jose State College	



Bettroy, David Strayer	Va.	Binder, Samuel Henry	Va.
Betts, Ellen C.	Calif.	Bing, John Henry	Calif.
A.B. 1951, University of California		Bingham, Cyril John	
Betzler, John Richard	Va.	Bingner, Janet Louise	
A.B. 1950, The George Washington University		B.S. 1941, University of Pittsburgh	D.C.
Beuermann, Herbert Talmadge	Va.	A.M. 1947, University of Maryland	
B.S. 1941, University of Maryland		Bird, James Frederick	Va.
Beveridge, Richard Alexander	Minn.	A.B. 1949, The George Washington University	Va.
Bovitt, William Deatry	Md.	Bird, Lillian Ames	
Bewick, James Voigt	Mo.	Bird, Martha Minier	
B.S. 1944, United States Naval Academy		A.B. 1943, North Dakota State Teachers College, Minot	Va.
Beyda, Irving A.	D.C.	Bird, William Potter	Conn.
B.B.A. 1951, University of Miami		A.B. 1943, Yale University	
Bever, Carolyn Louise	D.C.	Birdsall, Lucy Ellen	Md.
Bialek, Helen Mollie	D.C.	A.B. 1950, University of Connecticut	
Bialek, Stanley Morris	Md.	Birdsall, John Edmund	Va.
Bianchini, William Robert	Md.	A.B. 1945, LL.B. 1947, The George Washington University	Md.
Biasini, Adolph Paul	Pa.	Biren, Helen Leese	
B.S. 1949, The George Washington University		Birmingham, Alfred Nelson	D.C.
Bicknell, Beverlee Ann	Va.	Birmingham, Henry Patrick	
Bidwell, Cloyce William	Va.	A.B. in Ed. 1942, Rhode Island College of Education	D.C.
Biehl, Harry W. A.	Md.	Birmingham, Thomas Harlan	N.Y.
A.B. 1950, University of Maryland		Birnbaum, Eugene Albert	
Biemans, Anthony Peter	D.C.	Birnbaum, George	
Bienia, Walter John	Md.	A.B. 1941, Brooklyn College	
Bierbower, James Joseph	Nebr.	M.S. 1949, The George Washington University	Md.
B.S.S. 1947, LL.B. 1949, Georgetown University		Birnbaum, Henry	
Bierly, Robert Foust	Md.	A.B. 1945, A.M. 1946, New York University	Md.
A.B. 1941, University of Maryland		Birnbaum, Herbert	
Bierman, George Raymond	Va.	B.S. 1950, Johns Hopkins University	Va.
Bierman, Noah Lion	D.C.	Bisbee, Donald Mayo	Md.
Biermann, Donald Arthur	D.C.	Bischof, Charlotte Jean	
Bigelow, Louise Ann	Va.	Biser, Harry C.	
Bigelow, Maxelle DeWitte	D.C.	B.S. 1950, A.M. 1951, American University	D.C.
Buge, William Russell	Md.	Bisver, Edgar Maynard	Va.
A.B. 1951, University of Michigan		Bishop, Christine Elizabeth	Md.
Buzio, Jules Lewis	D.C.	Bishop, Frankie Eileen	
B.C.E. 1950, Cornell University		Biskar, Aaron Arnold	Pa.
Bignall, Bliss O., Jr.	Utah	A.B. 1950, The George Washington University	
B.S. 1948, Georgetown University		Bittner, Donald Harry	D.C.
Bikowski, John Adam	Pa.	Bellios, Peter Samuel	
Bilanow, Alex	D.C.	Bocklund, Otto Edward	
A.B. 1949, Wayne University		A.B. 1949, The George Washington University	Va.
Bildman, Louis Barbara	Va.	Bordo, Einar	
Bilker, Donald Earle	Ill.	Black, Alice Marion	
B.S. 1951, University of Colorado		Black, Betty Ann	
Billings, Virginia R.		Black, Jack Preston	
A.B. 1948, The George Washington University		Black, Martha Josephine	
Billingsley, Carolyn Virginia	Va.	Black, Mary Childs	
Billingsley, Charles Marvin	Md.	A.B. 1941, University of North Carolina	Va.
A.B. 1951, The George Washington University		Black, Richard Winthrop	
Billingsley, Hilda Ehaman	Md.	B.S. 1942, Webb Institute of Naval Architecture	
Billman, Kathleen Lucella	Mass.	Black, Velma Iris	
B.S. 1931, University of New Hampshire		A.B. 1941, Putnam University	
A.M. 1947, Columbia University	D.C.	Black, William Thompson	
Billis, DeWane Norman	D.C.	Blackburn, Gregory James	
Bilmanis, Coronia	D.C.	Blackburn, James Wayne	
Bilmanis, Milda Emiliya	N.J.	Blackford, Virginia Lee	
Bilobran, Katherine		B.S. 1949, American University	
A.B. 1943, Syracuse University	Pa.	M.S. 1951, The George Washington University	
Bilski, Clement Floyd			
A.B. 1951, The George Washington University			
Bindemann, Edgars Leopolds	D.C.		
Binder, Albert	D.C.		

Students Registered

429

Blackstone, Harry Gregory		Blevins, Robert Lee	N C
Blackwell, Louise Currin	D.C.	A.B. 1918, Milligan College	
A.B. 1917, A.M. 1950, East Carolina Teachers College	D.C.	A.M. 1946, University of North Carolina	
Blackwell, Patricia Ann			
Blackwood, Freda C.	D.C.	Blevins, William Childress	D.C.
Blades, Beverly Layton	Iowa	Blinder, Beulah Bernardik	Calif.
Blaser, Willard William	D.C.	Blinder, Herbert I.	Calif.
B.S. 1944, A.M. 1940, University of Wisconsin	D.C.	B.E. 1949, University of Southern California	
Blauer, Clanning Davis		Blitgen, Glenn Edward	Iowa
Blane, Jessie Ruth	Va.	B.S.C. 1943, University of Iowa	
Blair, Charles Robert	Tenn.	B.S. in F.S. 1947, Georgetown University	
Blair, James Colbert	Tenn.		
Blake, Andrew Betz	D.C.	Blitzstein, Ethel	D.C.
Blake, Doris Sidney	Md.	Blizzard, William Allport	Md.
A.B. 1950, Radcliffe College	Va.	B.S. 1948, West Virginia University	
Blake, Edward Ewell		Bloch, Joyce Edna	N.Y.
Blake, Francis Edward	W.Va.	Bloch, Robert Oakleigh	Nebr.
Blake, Isabel Rose Sieber	Md.	A.B. 1949, The George Washington University	
Blake, Philip Theobald	Mass.	Block, Donald Stanley	N.Y.
Blake, William Roberts	N.J.	A.B. 1951, New York University	
Blaney, Harry, Jr.	Md.	Block, Ellis Phillip	D.C.
B.S. 1943, Colorado State College of Agriculture and Mechanical Arts	Va.	L.L.B. 1927, University of Virginia	
A.M. 1949, New Mexico College of Agriculture and Mechanical Arts		Block, Isaac	Md.
Blalock, Charles Cookley	Ky.	B.S. 1951, University of Maryland	
A.B. 1949, Georgetown College		Block, Mollie Dworn	D.C.
Blakeney, Norbert Edmund		Block, Gardner Dean	N.H.
Blaley, Gene Austin	D.C.	A.B. 1951, Dartmouth College	
Blanchard, Millard Lewis	Va.	Blossow, Mary Louise	Wis.
Blanche, Denning	N.H.	Blondin, Leonard Saul	D.C.
Blanch, Eleanor R.	N.Y.	A.B. 1951, Western Reserve University	
A.B. 1950, The George Washington University	D.C.	Bloom, Edward Francis	Md.
Blanken, Joan Helen		Bloom, Eli Henry	N.Y.
Blankenship, Alvin Cleon		Bloom, Jerome Philip	Mich.
Blankenship, Marie Christine	D.C.	B.S. in M.E. 1947, Wayne University	
Blankenship, Mildred Louise	D.C.	Bloom, Joseph	R.I.
Blankenship, Rondal Clemens	D.C.	A.B. 1949, Brown University	
B.S. in Ed. 1946, Concord College	N.C.	Blosser, Calvin Stewart	Pa.
A.M. 1950, University of West Virginia	Va.	Blustein, Seymour	Va.
Blankley, William Bardo		Blustone, Abraham	D.C.
Blanton, Marjorie Jenkins	Va.	A.B. 1947, The George Washington University	
Blatt, Myrshell		Blum, Bernard Marvin	Md.
A.B. 1944, Bowdoin College	Va.	Blum, Daniel	D.C.
Blatt, John Frank	D.C.	B.M.E. 1944, College of the City of New York	
Blatt, Marianne	D.C.	Blum, Fred G., Jr.	Wis.
Blatt, Kenneth Errol	N.Y.	B.S. 1950, University of Wisconsin	
Blatt, Elaine Theresa	D.C.	Blum, Joseph	Va.
B.S. 1948, L.L.B. 1950, University of Southern California	Calif.	B.S. 1949, College of the City of New York	
Blattman, Saul J.		A.M. 1948, The George Washington University	
B.S.S. 1949, College of the City of New York	Md.	Blum, Lewis Israel	Miss.
Blatt, Harvey Alexandra		B.S. 1950, University of Alabama	
B.S. 1950, Wilson Teachers College	Va.	Blumberg, Beverly Gayle	D.C.
Blatt, Margaret Duke		A.B. 1944, University of Southern California	
B.S. 1944, Mary Washington College	W.Va.	Blumberg, Phyllis Diane	D.C.
Blacker, Samuel Carter		Blume, Adelaide	D.C.
Blacker, David		Blumenfeld, Isadore David	Ohio
Blair, Howard Leslie	Md.	B.S. in F.E. 1949, Case Institute of Technology	
Bleim, Noel	N.Y.	Blumenkopf, Norman	N.Y.
B.M.E. 1951, College of the City of New York	D.C.	A.B. 1941, Brooklyn College	
Blens, Eugene Winford	N.Y.	Blumenthal, Henry Simon, Jr.	D.C.
A.B. 1942, King College		Blumer, Emily Selma	Okl.
		Blumer, Marie Claire	Switzerland
		Bluth, David Lee	N.Y.
		Boag, John Donaldson	Pa.
		A.B. 1951, Lebanon Valley College	

Boag, Margaret Bower	Pa.	Bollinger, Howard Moore	Pa.
A.B. 1951, Lebanon Valley College		B.S. in E.E. 1943, M.S. in E.E.	
Bauman, William Eugene	Va.	1947, Massachusetts Institute of	
Bauman, Nancy Elizabeth	Pa.	Technology	
Babin, Anna	D.C.	M.B.A. 1948, Harvard University	
Bachman, Leila Pette	Tex.	Bollman, Robert Pleasanton	
Bachman, Philip James	N.J.	Bolton, Edith Jett	
Bachner, Charles Edwin	Va.	Bolton, Vivian Reynolds	
Bachy, Duane White	Mo.	A.B. in Gov. 1950, The George Wash-	
Bader, George Fred	D.C.	ington University	
Bader, Elizabeth Rosemary	D.C.	Boltz, Donald Arthur	
Bader, Norman Barron	D.C.	Bombard, Edward Lockhart	
Baker, Aubrey Russell	MI	Bower, Carol Jean	
Baker, Helen E.	N.Y.	Bord, Charles Stephen	
Baldwin, Carl Theodore	Pa.	Bondareff, Erwin Allen	
Bald, Maurice Goltke	Tex.	Bondareff, William	
A.B. 1946, Agricultural and Mechan-		B.S. 1944, The George Washington	
ical College of Texas	N.Y.	University	
Baldert, Jesse Clara	Va.	Bonhetti, Edna	
Bald, Robert H. Hays	D.C.	Bondam, Barbara Ann	
Bald, David Swaine	D.C.	Bondam, Howard Bryan	
Bald, Andrew	Va.	Bondam, L. Warren	
Baldwin, Stuart Chapman	Va.	Bondia, Lemora Fuschio	
Bald, Robert William	Va.	Bonitz, Armin J.	
A.B. 1949, University of Pennsylvania		B.S. 1944, College of the City of	
Baldwin, Jack Price	Va.	New York	
Bald, Homer Tildan	D.C.	Bonnee, Josephine Elizabeth	
Bald, Ernest	D.C.	Bonneton, Elizabeth Marguerite	
Bald, Abraham	N.Y.	Bonnett, Leo Victor	
B.S.S. 1941, College of the City of		A.B. 1917, University of Michigan	
New York	Pa.	A.M. 1947, The George Washington	
Baldwin, John Sackis	N.J.	University	
Baldwell, George Benjamin	Mich.	Bonnetts, Lowell Wootton	
Baldwin, Joyce Lavette	Pa.	Bono, Everett Lee, Jr.	
Baldwin, John Patrick	Pa.	Bonos, Lucetta Eleanor	
Bald, Joseph James	D.C.	Bonwit, Kenneth Stanley	
Baldwin, Flora and Emile	D.C.	Bosker, David Carlson	
Bald, Theodore Homer	MI	Bosner, Richard James	
Bald, James William	D.C.	B.S. 1949, University of Wisconsin	
Baldwin, Catherine Ann		Boone, Aretta Cephas	
B.S. in Ed. 1949, Wilson Teachers		A.B. 1948, Stanford University	
College	D.C.	Boone, James Stanford	
Baldwin, Loretta Lucy	D.C.	A.B. 1948, University of California	
Baldwin, Harold Vincent		A.B. 1948, University of California	
Ph.B. 1947, University of Notre		Boon Long, Soloe	
Dame		Boor, Samuel Vladimir	
L.L.B. 1947, Catholic University of		Bosner, James Louis	
America		Boss, Fred Joseph	
Baldwin, William Edward, Jr.	D.C.	Bosch, Carmen America	
A.B. 1947, University of Utah		A.B. 1948, Alcorn University	
Baldwin, Gerald Leonard	N.Y.	Bosch, Charles Theodore	
Bald, John William	Pa.	A.B. 1948, University of Richmond	
Bald, Joseph Thomas	N.J.	Bosch, Charles Charles	
Bald, Margaret Anne	N.Y.	Bosch, Dorothy Ann	
A.B. 1948, Nazareth College of		A.B. 1947, University of Florida	
Rochester		Bor, David, Edward George	
Bald, William Thomas	N.J.	B.S. 1948, LaCrosse State Teachers	
Bald, Zelda Don	Pa.	College	
Bald, John Henry	MI	Bosch, Owen Franklin	
Baldwin, Eleanor Mae	D.C.	Bosch, Paul William	
Bald, Robert Eugene	D.C.	A.B. 1949, The George Washington	
Bald, Leslie Ralph	D.C.	University	
Bald, William Cornell	Mo.	Borden, Nathaniel Barnett	
A.B. 1948, University of Kansas City		Bordens, Glenn Houghton	
Baldwin, Lowell	N.C.	Bord, Paul Arnold	
Bald, Robert William	D.C.	B.S. in C.E. 1914, University of	
Bald, Ernest John	MI	Kansas	
Bald, Lida L.	Tex.	M.B.A. 1936, Harvard University	
B.S. 1946, Tatung University		A.M. 1944, Columbia University	
Bollinger, Helen Marie	D.C.	L.L.B. 1951, The George Washington	



# Students Registered

431

Bornmann, Carl Louis A.B. 1951, The George Washington University	D.C.	Boward, Lawrence Mark	D.C.
Borstein, Gloria		Bowen, Donald Eugene	Mont.
Borstein, Irwin Seymour	Tenn.	Bowen, John Franklin	Va.
Boron, Leo Francis B.S. 1944, A.M. 1946, University of Michigan	N.Y.	Bowen, Leonard Earnest	Md.
Boros, Jerome Stanley A.B. 1947, A.M. 1950, LL.B. 1950, Syracuse University	D.C.	Bowen, Lois Green	D.C.
Boroni, Ambrose Martin A.B. 1940, A.M. 1949, St. Bonaventure's College and Seminary	N.Y.	Bowen, Margaret	Va.
Borone, Bernard Aaron	Va.	Bowen, Thales, Jr. A.B. 1949, The George Washington University	D.C.
Borowick, Eva		Bowen, Thomas James B.S. 1946, United States Naval Academy	D.C.
Borror, Walter Leon	N.Y.	Bowen, Verna Sarah	Va.
Borra, Nicholas, Jr.	D.C.	Bowerman, Arthur Wycott	Va.
Borrelum, Hugo	Md.	Bowerman, Irene Mae	D.C.
Borri, Clara Victoria	N.H.	Bowes, Arthur Lewis B.E.E. 1948, College of the City of New York	N.Y.
Borri, Leila Anita	D.C.	Bowie, Frank McKay	Va.
Borri, Bernice May	Pa.	Bowie, Homer Jennett	Va.
Borri, Sylvia Estelle	D.C.	Bowie, Myra Elaine	Md.
Borromi, Thomas Constantinus A.B. 1946, University of Oklahoma	Va.	Bowles, Joseph Luckett	D.C.
Borson, Sally Janet	D.C.	Bowles, Shelley Meredith	Md.
Borson, James Lynn	Va.	Bowling, James Walter	W.Va.
Borwick, Don Phillip	Pa.	Bowling, Mary Theresa	Md.
Borwick, Robert Edwin A.B. 1948, University of Alabama	D.C.	Bowly, Lawrence Vaughan B.S. 1950, American University	D.C.
Borwick, Elwood S.	Iowa	Bowman, Birmah Palle	N.C.
Borwick, John Gordon	Md.	Bowman, Dona Marie	Va.
Borwick, Russell Edgar	Va.	Bowman, Hugh	D.C.
Borwick, Russell Joseph	D.C.	Bowman, Russell William B.S. 1951, Johns Hopkins University	Pa.
Borwick, Basil	Va.	Bowman, Thomas George	D.C.
Borwick, Clyde B. A.B. 1949, J.D. 1951, Iowa State University	D.C.	Bowron, Frank Lloyd	Wyo.
Borwick, Mary Anna	Va.	Bowyer, Donald William	Ohio
Borwick, Donald LeRoy		Boyars, Carl B.S. 1949, College of the City of New York	Md.
Borwick, Richard Joe	D.C.	Boyer, David Barry	Md.
Borwick, Raza Frances	Va.	Boyd, Frank John	Va.
Borwick, Eugene Genevieve	Pa.	Boyd, Harold Loomis	Va.
Borwick, David Porter	D.C.	Boyd, Milton Alexander	Ohio
Borwick, Claude Peter	Ind.	B.S. 1950, Washington State College	
Borwick, Donald Hall	Va.	Boyd, Tobias J.	Va.
Borwick, Rene Andre A.B. 1950, The George Washington University	La.	Bower, John Zelda	Mass.
Borwick, Intel Spotswood	Fla.	Boyle, Rebecca Pollard	Ala.
Borwick, Max Remmy	Mass.	Boyle, Anne Marie	Pa.
Borwick, William Vincent, Jr.	Va.	Boyle, Barbara Jane	N.Y.
Borwick, Yvonne Camille	Md.	Boyle, James III	D.C.
Borwick, Lee A. Crumpton	Va.	Boyle, John Theodore	Pa.
Borwick, Dorothy Thersanger	Md.	Boyle, Louis Bernadette	D.C.
Borwick, Harlan Carson B.S. 1945, Virginia Polytechnic Institute	D.C.	Boyle, Virginia Allison	N.Y.
Borwick, Nicholas	Tex.	Bowles, Mary Elizabeth	D.C.
Borwick, Anna Parvayota	Va.	Bremwell, Antoinette	Md.
Borwick, Nancy Margaret		Briaten, Lawrence B.S. 1949, M.S. 1951, Stout Institute	D.C.
Borwick, Nancy Evelyn	Greece	Bracken, Anna Enale	D.C.
Borwick, Wake Forest College	Va.	B.S. 1948, University of Maryland	
Borwick, Katherine Jefferson	D.C.	Bracken, Jim Tom A.B. 1948, Hinds Simmons University	Tex.
Borwick, Howard Ralph B.S. 1945, P.E. 1950, The George Washington University	Md.	Bradbury, Eileen Pallas A.B. 1942, Boston University	Mass.
Borwick, Hertha Eugene A.B. 1945, A.M. 1950, University of Florida	Va.	A.M. 1943, Tufts University	
		Bradfield, Otis Grady	W.Va.
		Bradford, Ralph Gordon A.B. 1951, The George Washington University	Va.
		Bradley, Catherine Marie B.S. in Ed. 1947, University of Pennsylvania	Pa.
		LL.B. 1951, Fordham University	

Bradley, Charles William, Jr. B.S. 1951, Lehigh University	D.C.	Bray, Ruth Marie Braymer, Barbara Jane B.S. 1951, Florida State University	D.C.
Bradley, O. Lynne	D.C.	Brayton, Mary Lou	Va.
Bradley, Richard Homer, Jr.	Va.	Breach, John Olaf	Va.
Bradley, Robert Bell B.S. 1948, University of Maryland	Md.	Bready, Emily Galt A.B. 1923, Barnard College	D.C.
Bradley, Suzanne	Va.	Breasley, Grace Lady A.B. in Ed., 1951, The George Wash- ington University	D.C.
Bradshaw, Frances W.	Ala.	Breedem, Townsend Dean	Md.
Bradshaw, Harold Roger B.S. 1948, University of Maryland	Md.	Breen, James Michael	N.Y.
M.S. 1951, Catholic University of America		Breen, John Patrick B.B.A. 1941, Manhattan College	D.C.
Bradway, Malcolm Strode B.S. in M.E. 1948, Purdue University	Ind.	Breen, Mary Margaret A.B. 1949, Catholic University of America	Md.
Brady, Arthur Manning	D.C.	Breher, William Russell A.B. 1948, Michigan State College	Tex.
Brady, Charles Nicholson B.S. 1947, New York State College for Teachers, Buffalo	Md.	M.S. 1949, University of Wisconsin	Calif.
Brady, Henry William A.B. 1950, University of East Manila	Tex.	Brehm, James Fountain A.B. 1948, Ohio State University	Kan.
Brady, M. Michael	Md.	Breidenthal, Robert Edward B.S. in Ch.E. 1947, Oklahoma City University	Va.
Brady, Neal Caldwell B.S. 1947, Western Reserve University	Calif.	LL.B. 1949, Washburn Municipal Uni- versity of Topeka	N.D.
Braham, Arnold Spencer A.B. 1949, Syracuse University	Va.	Breitung, Amelia	Md.
A.M. 1951, University of Pennsylvania	D.C.	Bremer, Frederick Godfrey B.S. 148, University of Notre Dame	N.Y.
Brahin, Frederick Arnold	Ill.	Bremer, Hans Otto A.B. 1949, Hofstra College	Md.
Braker, Patricia Reese B.S. 1950, Northwestern University	Ill.	Bremer, Mary Ellen	D.C.
Braker, William Paul B.S. 1950, Northwestern University	Md.	Brenk, Patricia Nan	N.J.
Braley, Gerald Neal	D.C.	Brenman, Henry Stephen B.S. 1950, The George Washington University	Pa.
Bram, Bert	Fla.	Brennan, James Joseph Brennan, Julie Agnes	Md.
Brame, Oleeta	D.C.	Brennan, Mary Josephine A.B. 1949, College of New Rochelle	Va.
Bramlette, Lee Clinton, Jr. A.B. 1950, The George Washington University	Conn.	Brennan, Robert James A.B. 1949, The George Washington University	Md.
Branch, Elizabeth Helen	Md.	Brennan, William Francis B.S. 1949, University of Scranton	Md.
Brand, Albert William, Jr.	D.C.	Breneman, George Vincent, Jr.	D.C.
Brand, John Sibley	N.Y.	Brenner, Berthold	Fla.
Brand, Paul Joachim B.S. 1941, New York University	D.C.	Brenner, Daniel Campbell	N.J.
Brande, Fletcher Reid	Va.	Brenner, Joseph Frank A.B. 1954, Rutgers University	Md.
Brandenburg, Eugenia	D.C.	Brenner, Sonia B.S. 1950, Kansas City Teachers College	D.C.
Brandler, Harry Marum	Minn.	Brent, Catherine Hart Brennick, Gilbert Victor B.S. 1948, University of Maryland	Va.
Brandon, Gladys Darrell	D.C.	Brew, Eleanor M. A.B. 1943, Hunter College	Md.
Brann, Linwood Carroll	Va.	Brewer, George Weldon B.R.Ed. 1953, Atlantic Union College	Va.
Branner, Georgine	D.C.	M.Ed. 1947, Boston University	N.Y.
Brannock, Virginia Lucille	Iowa	Brewer, Glenna Faye	Md.
Brannon, Howard Wesley	Md.	Brewer, Joseph Daniel	Fla.
Brant, Mary E.	Pa.	Brewer, Robert George A.B. 1948, Hamilton College	Va.
Brantley, Jac Vernon A.B. 1951, Howard College	D.C.	Brewster, Albert Joseph Brewster, Mary Sandford LL.B. 1950, The George Washington University	D.C.
Brantum, Maria Nell	Mo.	Brice, Lawrence Smyth A.B. 1948, Washington College	Md.
Braunington, Clayton Furman, Jr.	Va.		
Braunlow, Sylvia A. A.B. 1947, The George Washington University	D.C.		
Braunow, Jerome Duryea A.B. 1949, The George Washington University	D.C.		
Braucher, Joan	N.Y.		
Braun, Fred Charles, Jr. B.S. 1951, University of Maryland	Md.		
Brauning, Carl Leonard, Jr.	Va.		
Brauning, Helen Jane	D.C.		
Braunstein, Isaac	D.C.		
Braunstein, Norman W. A.B. 1955, University of Minnesota	Minn.		
Braxton, Kathleen Kite	N.C.		
Bray, Lucile Keeton	Miss.		

# Students Registered

433

Brice, Norma Reid A.B. 1928, Michigan A.M. 1937, University of	Va.	Broesamle, Jack Richard Brogan, Clara A.B. 1929, University of Buffalo A.M. 1945, University of Pennsylvania	Va. D.C.
Buckhead, Cyril Francis LL.B. 1948, Fordham University	N.Y.	Brouder, Cynthia Diana Bronaugh, Alfred Taylor B.E.E. 1949, J.D. 1949, LL.M. 1950, The George Washington University	D.C. D.C.
Bridson, William Emerson Briere, Donald Reid Briere, Louis John Briesmeister, Helen Wilhelmina A.B. 1948, College of William and Mary	Iowa D.C. Va. Va.	Bronaugh, John Reeder B.S. in M.E. 1947, Virginia Poly- technic Institute	D.C.
Briggs, Francis Gifford A.B. 1951, The George Washington University	Ky.	Broner, Janice Irene Bronstein, Max Wilfred Brook, Robert Arnold Brooke, Alban Emerson Brookings, Walter Du Bois, Jr. A.B. 1937, Harvard University	D.C. D.C. N.Y. Md. Va.
Bright, Rosanna A.B. 1937, Hunter College	N.Y.	Brooks, Charles Milliken A.B. 1946, Duke University A.M. 1950, New York University	Maine
Brill, Anne Marie Brill, Edward Pope, Jr. LL.B. 1950, The George Washington University	Pa. Md.	Brooks, George Granville B.S. in E.E. 1947, Virginia Polytechnic Institute	Va.
Brill, Mary Martin Brinner, Alan Anthony A.B. 1946, University of Maryland	D.C. Md.	Brooks, James Fogelson A.B. 1949, Marshall College	W.Va.
Brinman, Robert Paul Ed.B. 1935, University of Southern Illinois	Iowa	Brooks, Lydia Thigpen Brooks, Phillip Henry Brooks, Randall A.B. 1951, The George Washington University	D.C. Kans. Va.
Brinman, Ed M. A.B. 1946, D.Ed. 1949, University of Missouri	Ind. D.C. D.C. D.C. N.C. N.J. Md.	Brooks, Suzanne Anderson A.B. 1951, College of William and Mary Brooks, Virginia Lou Brooks, William Allen, Jr. Brooks, William Bernard, Jr. Brooks, William I. B.S. 1911, Brooklyn College	Va. D.C. Md. Md. N.Y.
Brinman, Clement S. Brinkley, Margaret Brear Brinkley, Charles Earl Brinson, Jean Oliver Brinson, Milton Wilkerson Brisson, Stanley A.B. 1928, Franklin and Marshall College	D.C. Md. Va. Md. Mich. Va. Md. Mo. D.C. D.C. Ga. Va. D.C. Pa. Va. Md. D.C. Md.	Brown, Earl Eugene Brooky, Mary Jane Brosnahan, James Joseph Brosnan, John Leo B.S. 1951, Xavier University Brosseau, Reginald George LL.B. 1911, Northeastern University Brostrup, John Oliver Brothers, Elizabeth Corinne Brotman, Marvin Frederick Brown, Albert Louis, Jr. B.S. 1930, Miami University Brown, Alma Phillips A.B. 1936, Limestone College Brown, Anne Simpson A.B. 1934, Oklahoma State College Brown, Benjamin Franklin Brown, Caroline Thwing Brown, Christopher Kingsley Brown, Clarice Bailey A.B. 1915, Elmira College A.M. in Ed. 1916, Cornell University	Pa. D.C. Mass. Mass. Vt. Va. Md. D.C. Ohio Va. Ark. Md. Md. Va. Md.
Brinette, Marie Alice Brin, Randolph Brin, Cynthia Cornwell Brin, Edward Baylis Brin, Irene Catherine Brin, Allan Cameron Brin, Keith George Brin, Mary Martha Brin, Suzanne Brin, Theodore Broach, George Edgar A.B. 1948, University of Georgia Broadus, John Thomas, Jr. A.B. 1950, Lynchburg College Broadwater, Marcella Jane Broet, Donald George Broet, Ava Nell Broet, Xavier Martin Brockman, Ruth Marie Broell, Richard Lee B.S. in M.E. 1950, University of Maryland	D.C. Md. Va. Md. Mich. Va. Md. Mo. D.C. D.C. Ga. Va. D.C. Pa. Va. Md. D.C. Md.	Brown, Curtis Leslie Brown, Donald Acker A.B. 1951, St. John's College Brown, Donald Arthur A.B. 1950, The George Washington University Brown, Dorothy Brown, Edward John A.B. 1948, Muhlenberg College Brown, Elsie Mio A.B. 1949, The George Washington University Brown, Eric D. B.S. 1949, Pennsylvania State College	D.C. Md. D.C. N.Y. Pa. D.C. Va.
Broderick, Byron T. A.B. 1950, University of Iowa Broderick, George Vincent A.B. 1951, Brown University Brodie, Dorothy Ray B.S. 1940, The George Washington University Brodinsky, Jann Lerner B.S. 1943, Long Island University A.M. 1949, New York University Brodburzen, Theodore James A.B. 1951, Calvin College	Iowa R.I. D.C. D.C. Va. Mich.		



Brown, Ernestine Bain	Tex.	Browne, Anna Mae	
Brown, Eugene Earl	Pa.	A.B. 1937, American University	
Brown, Franklin Bradford	Md.	A.B. 1938, Shepherd State Teachers College, West Virginia	Capa
Brown, Frederick William	N.Y.	Browne, Joan Mae	Pa.
B.S. 1948, United States Naval Academy	Calif.	Browne, Milton Ronald	Pa.
Brown, Garrison	Mich.	Browning, Earl McDade	Pa.
Brown, Garry Eldridge		Browning, Francis Gerard	Pa.
A.B. 1941, Kalamazoo College	Va.	Browning, Jean Russell	
Brown, George Alexander, Jr.	Va.	Brownson, Robert Henry	
Brown, George Edward		B.S. 1948, John Carroll University	Va.
Ed.B. 1945, Wisconsin State Teachers College, Eau Claire		M.S. 1950, The George Washington University	Va.
M.S. 1941, University of Colorado	Pa.	Broy, Beverly Hite	Wash
Brown, George Francis	D.C.	Broy, James William	D.C.
Brown, Geraldine Doris		Broz, Richard Francis	Pa.
B.S. 1946, College of William and Mary	Md.	Brozick, Jean Mary	Pa.
Brown, Harry Dean	N.C.	Brubaker, Franklin Charles	Pa.
B.S. 1949, University of Utah	Minn	Brubaker, Olive Susan	Pa.
Brown, Hazel Maxine	N.Y.	Brubaker, Robert Lee	Pa.
Brown, Jack Eugene	Md.	Brubaker, Virgil Wilson	Pa.
Brown, James Clinton		B.E.F. 1941, Ohio State University	Pa.
Brown, James Robert		Bruce, Carlton Henry	Pa.
A.B. 1941, The George Washington University	D.C.	A.B. 1928, Pennsylvania State College	Pa.
Brown, James Vernal		Bruce, John Charles	D.C.
A.B. 1951, Morris Harvey College	Va.	B.S. in F.S. 1951, Georgetown University	D.C.
Brown, James White, Jr.	N.Y.	Bruce Briggs, Florence J.	Va.
Brown, Janet Elizabeth		A.B. 1950, The George Washington University	Va.
A.B. 1945, Oberlin College	D.C.	Bruch, George Daniel	Pa.
Brown, Joe Filworth	S.C.	Ph.B. 1938, Xavier University	Pa.
Brown, Joseph Manson, Jr.		L.L.B. 1941, Georgetown University	Pa.
B.S. 1948, The Citadel	Pa.	Brucker, William Spiers	Pa.
Brown, Lester Theodore		B.M.E. 1941, Cornell University	Pa.
B.S. 1947, Pennsylvania State Teachers College, East Stroudsburg	Va.	Bruenner, William	Pa.
A.M. 1949, State College of Washington	Ark.	B.S. 1949, College of the City of New York	Pa.
Brown, Margaret Gould		Bruffey, Albert Henry	Pa.
Brown, Martin John		Brun, Helen Curley	Pa.
B.S. in Chem. Eng. 1948, Purdue University	Ill.	Brun, Mackall Virginia	Pa.
Brown, Marvin Joel	D.C.	Brun, Victor Carl	Pa.
Brown, Mary Catherine	D.C.	A.B. 1947, Dartmouth College	Pa.
Brown, Mary Elizabeth	D.C.	Brumbaugh, Frances Smyther	Pa.
Brown, Mary Lee Gaines	Va.	Brumbaugh, Aurelia N.	Pa.
Brown, Milton Henry		Bramby, Ralph Edward	Pa.
A.B. 1941, University of Pittsburgh	D.C.	Brammel, William Gregory	Pa.
Brown, Minnie Ray	Va.	Brammel, George Marie	Pa.
Brown, Orla Irene		Brammer, Rachel Alice	Pa.
B.S. 1947, Northwestern University	Ia	Brunner, Gertrude Lantner	Pa.
Brown, Patricia Louise	D.C.	A.B. 1948, University of California	Pa.
Brown, Raymond J.		Brunner, Robert Otto	Pa.
B.S. 1949, New York State Teachers College, Buffalo	Ia	A.B. 1948, Oberlin College	Pa.
A.M. 1948, The George Washington University	Iowa	Brunner, Ruth Hinkle	Pa.
Brown, Richard Gaslington	Ore.	B.S. in P.E. 1911, The George Washington University	Pa.
B.S. 1947, United States Naval Academy		Brunner, Toby Emanuel Goffrey	Pa.
Brown, Robert Cecil		Brunner, Toby Emanuel Goffrey	Pa.
A.B. 1941, Reed College	Va.	A.B. 1950, Harvard University	Pa.
Brown, Ronald Lawson	Va.	Bruss, Otto H.	Pa.
Brown, Ruth Kemp		Brust, Nora May Trittipoe	Pa.
A.B. 1927, Northwestern University	D.C.	Brown, Sallie Ann	Pa.
Brown, Susan Noble	N.J.	Bryan, George Sloan, Jr.	Pa.
A.B. 1942, Bryn Mawr College	Va.	B.S. 1945, Swarthmore College	Pa.
Brown, Thomas Albert	D.C.	Bryan, John William	Pa.
Brown, Thomas Marion		Bryan, Ralph H.	Pa.
Brown, Verlen Elizabeth	N.Y.	Bryant, Bernice Margaret	Pa.
Brown, Vincent Charles		Bryant, Mary Elizabeth	Pa.
Brown, William Joseph		A.B. 1942, Limestone College	Pa.
		Bryant, Ralph Lee	Pa.
		B.S. 1949, University of Missouri	Pa.
		Bryant, Robert Simuleton	Pa.
		Bryant, Thomas Greene	Pa.

### Students Registered

435

[illegible]

Burnet, Arthur Russell	N.Y.	Bush, Donald Scott	Calif.
A.B. 1942, Oberlin College		Bushnell, Mary Bland	Mich.
Burnett, Eleanor Ashbey	Fla.	A.B. 1948, Denison University	Ind.
Burnett, Thomas Edison	D.C.	Bushnell, Richard	Pa.
Burns, Bland Calvin	Va.	B.S. in M.E. 1948, Purdue University	Md.
B.M.E. 1950, The George Washington University		Busits, Louis Frank	Md.
Burns, Claire L.	D.C.	Busits, Theresa Mary	
Burns, David M.	N.H.	Butler, Bruce, Jr.	N.J.
B.B.A. 1946, University of Texas		B.S. 1951, Franklin and Marshall College	
Burns, Francis Henry	Pa.	Butler, Charles Aloysius	Mass.
Burns, Lafayette Ernest	D.C.	B.S. 1948, St. Peter's College	Va.
B.S. 1951, University of California		Butler, Charles Edward	Tenn.
Burns, Michael Francis	Mass.	Butler, Charles Robert	Md.
B.Arch. 1944, Yale University		Butler, Claude Lee	N.Y.
Burns, Robert Emery	D.C.	Butler, Dan Logan	Md.
Burns, Robert Lee	Va.	Butler, Francis Morris	Md.
A.B. 1949, The George Washington University		B.S. 1950, University of Maryland	
Burns, Robert Samuel	Va.	Butler, Guy Harry	Tenn.
Burns, Ruth Alice Tomasick	Va.	Butler, Herman Carl	D.C.
Burns, Thomas Francis	D.C.	B.S. 1950, University of Maryland	D.C.
B.S. 1944, St. Thomas College		Butler, John Kenneth	
Burns, Thomas Lawrence	N.Y.	Butler, Richard Frank	Mich.
A.B. 1941, Canisius College		Butler, William Powers	Calif.
Burns, Thomas William Edward	W.Va.	B.S. 1949, Georgetown University	
Burrington, Dale Eugene	Md.	Butler, William Robert	Va.
Burris, James Currie	N.C.	Buttrely, Charles	
B.S. 1948, Wake Forest College		B.S. 1950, Western Reserve University	
Burroughs, Peggy Jean	D.C.	Buttrum, Roy Warden	D.C.
Burrow, William Gordon	D.C.	B.A.E. 1946, Rensselaer Polytechnic Institute	N.Y.
Burrows, John David	Md.	Butt, Frederick David	N.Y.
Burset, Anne J.	N.Y.	Button, Milford Clair	Va.
Bussley, George Herbert Patrick	D.C.	Button, Richard Ferris	Calif.
B.S. 1946, United States Coast Guard Academy		Butts, Arthur Laverne	
Burton, Edna Ruth	Miss.	Butts, Lee Garland	Va.
Burtch, Jack Lee	D.C.	Buyarowicz, Stella Mary	Va.
A.B. 1951, Whitman College		B.B.A. 1945, Western Reserve University	Calif.
Burtner, Carrol Elmer	D.C.	Buynak, Michael Daniel	
B.S. 1947, Worcester Polytechnic Institute		Bizzell, Robert Dow	D.C.
Burtner, Roy H., Jr.	Md.	Byer, Seymour	D.C.
Burton, Barbara Christian	Va.	B.S. 1951, The George Washington University	
Burton, Clayton Benjamin	Ill.	Beverly, Barbara Ann	
Burton, George, Jr.	N.J.	Byers, Henry E.	Mo.
B.S. 1950, Virginia Polytechnic Institute		B.S. 1948, University of Rochester	
Burton, Edward Francis	Va.	L.L.B. 1951, Cornell University	Md.
Burton, Ellison Stanley	N.Y.	Byrd, Lonnie Guy, Jr.	Md.
A.B. 1951, Amherst College		L.L.B. 1948, University of Missouri	D.C.
Burton, Robert Lee	Md.	Byrne, Robert Joseph	
Burton, William Miles	D.C.	Byrnes, Michael Howard	Va.
B.S. 1950, The George Washington University		Ed.B. 1951, University of Miami	
Burwell, Ann Hutton	D.C.	Byron, Goodloe Edgar	
Burwell, Nathaniel Turner	Va.	A.B. 1951, University of Virginia	
Bush, Harriet Patricia	Md.	Bywater, Maurice John	
Bush, Bennett Graham	Pa.	A.B. 1950, The George Washington University	
Bushy, Andrew Lavaleton	Miss.		
A.B. 1942, Mississippi College			
Bushy, Robert Lee	D.C.	Cabell, George C.	Va.
Busher, Helen Louise	Md.	Cable, James Theodore	Pa.
B.M. 1951, Catholic University of America		Cabrera, John Emile	N.Y.
Bushman, Lorita Dorr	D.C.	Cadell, Robert Bruce	Va.
A.B. 1949, The George Washington University		Cadden, Thomas Herschel	
Buser, Charles Aubrey	Md.	Cadle, George Newton, Jr.	Va.
A.B. 1949, Gordon College		B.S. 1951, A.M. 1955, University of Arkansas	Ort.
Buser, Elizabeth Anne	D.C.	Cady, Blake	
A.B. 1948, The George Washington University		Caemmerer, Alice Bailey	
		B.S. 1950, The George Washington University	



# Students Registered

437

Caffes, Jean Marie			
Caffes, Peter James			
Caffrey, James Anthony			
Caffrey, Mary Margaret			
Caffrey, William Daniel			
B.S. 1950, Indiana State Teachers College			
Caffish, Frank Albert, Jr.			
A.B. in Ed. 1950, The George Washington University			
Cahan, Jules Isaac			
B.S. 1949, The George Washington University			
Caherty, Eileen A.			
Cahill, Helen R.			
B.S. 1928, Iowa State College of Agriculture and Mechanic Arts			
Cahoon, Lillian Adelaide			
Cahoon, Lynda Lee			
Cain, Billy Wayne			
Cain, Cecelia Teresa			
A.B. 1928, Davis and Elkins College			
Cain, John I. E.			
Cain, John Wallace			
Cain, Kathleen Antoinette			
Cain, William Bell			
Cain, William Morris			
Caine, Michael Harris			
A.B. 1950, Oxford University, England			
Caines, George Henry			
B.S. 1918, United States Naval Academy			
Cairns, John Howard			
Cairns, Paul Anthony			
Caldwell, Margaret A.			
Caldwell, Edward Richard			
Caldwell, John Boole			
Caldwell, Marilyn Davis			
Caldwell, Alexander Dewey, Jr.			
A.B. 1946, Harvard University			
Caldwell, William Harper			
Caldwell, John			
B.S. 1950, University of Chicago			
Caldwell, Charles Goddard			
Caldwell, Claude Alexander			
Caldwell, Frances Goddard			
Caldwell, William Lawrence			
Caldwell, John Eugene			
Caldwell, John Joseph			
Caldwell, Ann Dorey			
Caldwell, Chester Lee			
A.B. 1945, University of California			
A.B. 1950, The George Washington University			
Caldwell, Joseph Eastering III			
Caldwell, William McCown			
A.B. 1952, University of Maryland			
Caldwell, Catherine Jean			
Caldwell, James Richard			
Caldwell, Mary Elmer			
Caldwell, George			
Caldwell, Anne Keith			
Caldwell, Francis Carver			
A.B. 1951, Howard College			
Caldwell, Sally Moore			
Caldwell, Henry Jules			
L.L.B. 1951, The George Washington University			
Camarot, Solange Emilienne			
Fla.			
Cambosos, Nicholas Michael			
Md.			
Cambre, Della Norene			
D.C.			
Camelio, Joseph Albert			
N.Y.			
Cameron, Archie Enos			
D.C.			
B.S. 1941, Ferris Institute			
Cameron, Betty Jean			
D.C.			
Cameron, Frank Conevery			
Pa.			
A.B. 1912, University of Michigan			
Cameron, Janet			
Md.			
Cameron, Joan Marie			
D.C.			
Cammer, Margaret Ann			
Va.			
B.S. 1948, M.S. 1949, The George Washington University			
Camp, Victor William			
Md.			
Campagna, Ignatius Edward			
Va.			
Campagna, Ambrose Ralph			
Pa.			
A.B. 1942, Pennsylvania State College			
Campagna, John Paul			
Pa.			
B.S. 1943, Pennsylvania State Teachers College, Mansfield			
Campagna, Mary Louise			
Pa.			
B.S. 1944, Marywood College			
B.S. in F.S. 1951, Georgetown University			
Campbell, Alexander Spotswood			
D.C.			
Campbell, Anne Barraud			
D.C.			
Campbell, Carroll Raymond			
Md.			
Campbell, Charles Edwin			
Ky.			
Campbell, Charles Richard			
Fla.			
Campbell, Francis Muri			
Va.			
B.S. in Ed. 1940, Pennsylvania State Teachers College, Indiana			
Campbell, George Washington			
Va.			
Campbell, Harrison Sherwood			
D.C.			
B.S. 1950, Massachusetts Institute of Technology			
A.M. 1951, Columbia University			
Campbell, Ian Philip			
D.C.			
Campbell, James Franklin			
D.C.			
Campbell, James Leonard			
Md.			
Campbell, Joel Max			
Ala.			
Campbell, John Eames			
Md.			
Campbell, Margaret Elizabeth			
Va.			
Campbell, Mildred Ann			
Md.			
B.S. 1949, The George Washington University			
A.M. 1951, Smith College			
Campbell, Richard Glen			
Nev.			
Campbell, Sheila Elizabeth			
D.C.			
Campbell, Thomas Chase			
Va.			
Campbell, William Arlyn			
Tenn.			
Campbell, William Arthur, Jr.			
D.C.			
Campbell, William David			
Pa.			
B.S. 1951, Juniata College			
Campbell, William Leslie			
Ill.			
Campbell, John Edith			
Panama			
B.S. 1949, Mary Washington College			
B.S. in Ph.D. 1951, Howard College			
Camus, Shirley Ann			
Md.			
Canady, William James			
N.Y.			
B.S. 1946, Foothill University			
M.S. 1950, The George Washington University			
Canafax, Everett Daniel			
Ky.			
Canaleana, Paul Joseph			
N.Y.			
Cann, Samuel Adams			
Ga.			
A.B. 1950, University of Georgia			
Cannaday, John Egerton, Jr.			
W.Va.			
Cannon, John Andrew			
Md.			
Cannon, Nancy Helen			
D.C.			
Canstahelle, Hugo Brazil			
Brazil			
Canter, Jerome Wolf			
N.Y.			

Cantor, Bernard Jack	D.C.	Carlson, Loren Merle	S.C.
B.M.E. 1949, Cornell University		A.B. 1948, Yankton College	
Cantor, Edgar Lewis	D.C.	M.S. 1952, University of Wisconsin	
A.B. 1949, University of Michigan		Carlson, Mary Elizabeth	D.C.
Cantor, Noel Jay	D.C.	A.B. 1948, The George Washington	
Cantor, James Mear	D.C.	University	
Cantor, Jay Kenville	Mass.	Carlson, Norman Jean	
Cantor, Frank Michael	Ohio	Carlson, Robert Iver	
B.S. 1949, Georgetown University		B.S. 1950, Worcester Polytechnic	
Capel, Mary Watkins	Va.	Institute	
Capel, Joseph Thomas	Va.	Carlton, Charles Evans	
B.S. 1949, University of Missouri		B.S. 1954, Southwest Missouri State	
Carr, Joel Bernard	D.C.	College	
A.B. 1949, State University of Iowa		Carlton, Harry Nelson	
Carr, John Carl B.	D.C.	B.S. 1949, M.S. 1950, The George	
Carr, John M.	D.C.	Washington University	
B.S. 1949, Seton Hall University		Carmaly, I. Theresa	
Carr, Arthur	N.Y.	Carmack, David Curry	
Carr, John Walter	N.J.	Carmack, Richard Vernon	
B.E.E. 1949, The George Washington		Carmody, Harry Thomas	
University		Carmody, Richard Allen	
Carpenter, Paulino	N.Y.	A.B. 1946, Providence College	
Carpenter, William Lee	Va.	B.S. 1948, Georgetown University	
Carpenter, John Paul	D.C.	Carnahan, Mary Rachel	
A.B. 1949, Augustana College		B.S. 1948, Southwest Missouri State	
A.M. 1949, Drake University		College	
Carrington, Donald Samuel	D.C.	Carnahan, Melvin Eugene	
Carr, Victor James	Va.	Corney, John Edward Patrick	
Carballo, M. Cecilia Mercedes		Carr, Sally Phyllis	
Dominican Republic		A.B. 1949, The George Washington	
Cardano, Ferdinand Sebastian	Md.	University	
Cardenas, Luis A. Garcia	D.C.	Caron, Anna Mae	
Cardie, Donald Harold, Jr.	Conn.	Carroll, Rosemary Janet	
B.S. 1949, United States Naval		Carpenter, Agnes Profit	
Academy		A.B. 1945, De Paul University	
Cardon, John Joseph	Pa.	Carpenter, Clarence Alfred	
Cardy, George James	D.C.	Carpenter, John J. Jr.	
Carey, George William	D.C.	A.B. 1924, New York State Teachers	
Carey, John Wayne		College	
A.B. 1949, University of Maryland		Carpenter, Edwin John, Jr.	
Carey, Maurice Louis	Mass.	Carpenter, James Edgar	
Carey, Francis Francis	N.H.	Carpenter, Jay C.	
Carey, William Raymond	Wash.	Carpenter, Jean Anne	
A.B. 1949, Washington State College		Carpenter, Jessie Catherine	
Carr, Edward Eugene	MI	Carpenter, Leslie University of Virginia	
Carr, Frederick Patrick	MI	B.S. 1949, University of Virginia	
A.B. 1949, American University		Carpenter, Patricia Ann	
Carlson, Fred C.	Va.	Carpenter, William Otis	
Carlson, John Thomas	Va.	A.B. 1949, The George Washington	
Carr, John Thomas, Jr.	Va.	University	
B.S. 1949, University of Virginia		Carpenter, Crystal Marie	
Carr, David Taylor	Va.	Carpenter, Manuel Modesto	
Carr, Philip Arts	W.Va.	Carr, Clifford Chester, Jr.	
Carrington, Joseph I.		B.S. 1949, University of Pennsylvania	
A.B. 1949, West Virginia University		Carr, Edward Charles	
Carr, Glenn Mac	MI	Carr, George Lawrence	
Carr, Donald Eugene	Mass.	Carr, James Alexander	
B.M.E. 1949, U.S.A. 1949, University		Carr, John Kenneth	
of Missouri		A.P. 1947, University of Nevada	
Carlson, Timothy Sanford	MI	Carr, Marjorie	
B.S. 1949, Southwest Missouri State		B.S. 1947, University of New	
College		Hampshire	
Carlson, Edith J.	Calif.	Carr, Max Wayne	
Carlson, Donald Gustav	Ore.	Carr, Robert Addison	
B.S. 1949, United States Naval		B.S. 1949, Ohio State University	
Academy		Carr, William Henry, Jr.	
Carlson, Herbert Donald	MI	B.S. 1949, Kansas State College	
Carlson, Howard Kenneth	MI	of Agriculture and Applied Science	
A.B. 1949, The George Washington		Carr, William Hoyt	
University		B.S. 1949, Furman University	
Carlson, James LeRoy	Ill.	Carr, William Larwill	
		B.B. 1949, Kenvon College	
		Carrere, Gladys Aileen	

# Students Registered

439

Carol, William Herman B.S., L.L.B. 1948, University of Alabama	Ala.	Cassetta, Salvatore Francis A.B. 1951, San Jose State College	Calif.
Carroll, Bess A.B. 1943, Brooklyn College	D.C.	Cassidy, Paul Richard Cassidy, William Edgar	Va. Md.
Carroll, Jean Elizabeth Carroll, Joel A.B. 1944, Cornell University	Va. D.C. D.C.	Cassidy, Wedad George Cassidy, Donn Edward A.B. 1950, The George Washington University	D.C. Utah
Carroll, Mary Josephine A.B. 1931, Maryville College	Tenn.	Cassidy, John Glen A.B. 1948, University of Utah	Utah
A.M. in Govt. 1948, The George Washington University		Casteel, Byron David A.B. 1935, University of Texas	Ark.
Carson, Arthur Naeole B.S. 1944, California Institute of Technology	N.M.	M.D. 1941, Harvard University M.Ph. 1940, Johns Hopkins University	D.C.
M.S. 1950, The George Washington University		Castellanos, Luis A Castleman, Jacob Israel	Va.
Carson, Martha Yarrington A.B. 1950, The George Washington University	N.M.	B.S. 1945, Massachusetts Institute of Technology	D.C.
Carroll, Robert McClean, Jr. L.L.B. 1939, A.B. 1939, Stetson University	D.C.	Castro, Beebe Henderson Casswell, Adele Lambert Casswell, John Long, Jr. Casswell, Robert Little	D.C. Md. Calif.
L.L.M. 1940, Duke University		B.S. 1949, University of California	N.Y.
Carter, Champ Stuart Carter, Darrell Denmeade A.B. in Govt. 1949, The George Washington University	Fla. Ill.	Cating, Edward Alexander Caulfield, Donald John A.B. 1951, The George Washington University	N.Y. N.Y.
Carter, Edward Nelson Carter, Edwin Royell III Carter, E. Ernest Casey B.S. 1950, Robinson	Va. Va. Va. Va.	Caulfield, Samuel Joseph Cawsey, Ann Elizabeth Cawsey, Gordon Wallace Cavaprotti, Victor John	Va. Md. Ill. Va.
Carter, Helen Louise Carter, Janet Gordon B.S. 1941, University of Louisville	Va. D.C. Md.	Cavaliere, Dorothy Michael Cavallaro, Virginia Antonette Cavanaugh, John Edward A.B. 1941, University of Oregon L.L.B. 1940, The George Washington University	N.Y. D.C. D.C. D.C.
Carter, Lionel Turner Carter, Marie Helen Carter, Thelma May Carter, Thomas Nelson	Tenn. Va. Va. D.C.	Cavanaugh, Frederick S. B.S. 1940, American University Cavanaugh, George Joseph Cavanaugh, Peggy Ann	D.C. Md. D.C.
Carter, George Minor Carter, Donald Francis B.S. in P.E. 1950, The George Washington University	D.C. D.C. Md.	Cavaness, Allen Leroy Ed B. 1949, Southern Illinois University Ed M. 1951, Bradley University	Md.
Carter, Lawrence Robert A.B. 1942, L.L.B. 1950, The George Washington University	N.J.	Cave, George William Caveny, Carolyn Frances A.B. 1951, Pennsylvania State College	Pa. D.C.
Charters, Leo Thomas Jr. Cavanaugh, Perry Cavin, William Franklin	Md. D.C. D.C.	Cebollero, Manolo Cebrowski, Carl Nelson Cecilia, Robert Peter Cerepiano, Alexander Davidson	D.C. D.C. Md. Calif.
Cassano, John Peter Cassano, Arturo Ynocencio Cassano, Antonio Cassano, Raymond Andrew	Conn. D.C. D.C. D.C.	B.S. 1941, Stanford University Cerk, Fred Robert A.B. 1949, New York University	N.Y.
Cassano, Ann Donnelly Cassano, Lawrence John A.B. 1946, Brown University	Mexico R.I. N.Y.	Cerock, Peter Aull Cerny, Rana Cerra, Michael Joseph B.S. 1950, Columbia University	D.C. D.C. N.J.
Cassano, James Howard Cassano, John Lawrence Cassano, John Joseph Cassano, John Michael	Va. Md. Va. Pa.	Cervantes, Robert Martinez A.B. 1949, The George Washington University	D.C.
Cassano, Charles Owen Cassano, Warren Lorraine A.B. 1942, Ed M. 1950, New York State Teachers College, Buffalo	Ky. Mo. Va.	Cervoni, Salvador Cervoni, Calvin Donald A.B. 1950, Calicut College Chase, Dean William B.S.E. 1951, Princeton University	Pa. Md. N.Y.
		Chasmar, Frances Chad, Seymour Walter A.B. 1948, University of California at Los Angeles	D.C. D.C.
		Chadwell, Edward Andrew A.B. 1942, Columbia University	D.C.



Chadwick, Anne	D.C.	Charlick, Carl	N.Y.
Chadwick, William Edward	Va.	Charlwood, Patricia Gale	Va.
Chaisen, Eva W.	N.Y.	Charlwood, Reynold Edward	D.C.
A.B. 1948, Hunter College		Charuhas, James John	D.C.
Chakeres, Jimmy	D.C.	Chase, George	D.C.
Chais, Marie Wallace	Honduras	A.B. 1948, The George Washington University	D.C.
Chamberlain, Margaret Mary	D.C.	Chase, Irwin, Jr.	D.C.
Chamberlain, Guy Wadsworth, Jr.	D.C.	B.S. 1911, United States Naval Academy	D.C.
B.S. 1938, Washington and Lee University		Chase, Marjory Ruth	N.H.
Chambers, Edward Francis	Pa.	Chase, Robert Thompson, Jr.	Va.
Chambers, Lester Smith	Va.	Chase, Russell Clifton	Va.
B.S. 1934, United States Naval Academy		Chase, Shirley Elaine	Va.
M.S., A.E. 1944, California Institute of Technology		A.B. 1949, Miami University	Va.
Chambers, Thelma Lela	Mo.	Chasey, Harry Lewis	Va.
Champagne, Maurice Anthony	La.	B.S. in Ed. 1934, Rutgers University	Va.
B.S. 1931, Louisiana State University		Charnov, Bernard	Va.
Champion, Marvin Asbury	Ala.	B.S. 1919, M.S. in Ed. 1949, City College of New York	D.C.
B.S. 1944, Alabama Polytechnic Institute		Chatelan, Diane Louise	D.C.
Champion, William Ray	D.C.	Chatlin, Gerald Morris	N.Y.
A.B. 1948, Hardin-Simmons University		Chatrnick, Mary Lee	D.C.
Chan, Dorothy May	D.C.	Chatrnick, Stephen	D.C.
Chance, Anthony Nicholas	N.J.	Chauvette, Louis Michael	D.C.
Chance, Thomas Russell	Md.	A.B. 1949, Catholic University of America	D.C.
Chandious, Eliane	Va.	Chavez, Ambrosio Felipe	D.C.
Chandler, Harold Haislip	Md.	A.B. 1950, University of Washington	D.C.
A.B. 1933, Western Maryland College		Chavez, Ermilo Joseph	Md.
Chandler, Helen	S.C.	Chavis, Colie	Md.
Chandler, Herbert George	Md.	Chavoor, Shirley Therrien	Md.
Chandler, Joseph Merritt, Jr.	Va.	Chaves, Antonia Handler	D.C.
Chaney, Albert Lon, Jr.	Md.	A.B. 1949, Radcliffe College	D.C.
Chaney, Clarence Melvin	Oreg.	Cheatham, James Bacon	Va.
Chaney, James William	D.C.	B.S. 1951, Loyola University	Md.
A.B. 1949, Catholic University of America		Chechia, Maria Katherine	N.Y.
M.S. 1950, The George Washington University		Chockoway, Abraham	N.Y.
Chaney, John Lester	D.C.	Choeman, George LeRoy	Md.
Chaney, Lucy Turner	Md.	Choers, Mary Elizabeth	Md.
Chang, Pau Men Tan	Va.	Choers, Philip Charles	Md.
A.B. 1949, The George Washington University		B.B.A. 1950, Manhattan College	Md.
Chang, Victor Chan Cheng	Va.	Cheezum, Helen Alberta	Ind.
Channon, Kenneth Frank, Jr.	Md.	B.S. 1946, Maryland State Teachers College, Salisbury	Chad.
Chaplin, Harvey Reese, Jr.	Va.	Chenault, Paul Gene	La.
Chapline, Claudia B.	Va.	Cheng, Hang-Sheng	Malay.
Chapman, Allyn Dean	Va.	A.B. 1948, National Tsing Hua University	D.C.
Chapman, Dorothy Irene	D.C.	Chennault, Joe Young	Va.
Chapman, Ernest Eugene	Md.	Cheong, Chao Pin	Va.
B.S. in F.S. 1948, Georgetown University		Chernachin, Paul	Md.
Chapman, John Byrd	Va.	A.B. 1947, University of Michigan	Va.
Chapman, John Kenton	Miss.	Cherry, Jerome	Md.
A.B. 1944, University of Alabama		A.B. 1936, Randolph-Macon College	N.Y.
L.L.B. 1944, The George Washington University		Cherry, John Claxton, Jr.	P2
Chapman, John Timothy	D.C.	Cherry, John William	D.C.
Chapman, Kathryn Dawsey	Md.	A.B. 1949, University of Vermont	
A.B. in Ed. 1941, The George Washington University		Chertoff, Mitchell	
Chapman, William Harold	N.C.	Chertok, Leonard	
B.S. 1941, Davidson College		Chervenak, John	
Chapnick, Phyllis Lee	Md.	B.S. in E.E. 1934, Carnegie Institute of Technology	
Chapper, Frank Morris	D.C.	M.S. in Ed. 1945, University of Pittsburgh	
Charles, Frederick Isaac	Pa.	Chervenak, William Aloysius	Pa.
Charles, George James	Pa.	Cherwek, William George	Pa.
A.B. 1950, University of Pennsylvania		Chesler, Daniel Edward	Pa.
Charles, John	Md.	Chesley, Edward Joseph	Pa.
Charlesworth, George Herbert	Md.	Chesley, Emory Willard	Pa.
A.B. 1918, Houghton College		A.B. 1948, Western Maryland College	Pa.
A.M. 1947, University of California at Los Angeles		Chetane, Ennia Lee	
		B.S. 1950, M.S. 1951, Florida State University	

# Students Registered

441

Chester, Annabelle Johnnie	D.C.	Christiansen, Robert	Ill.
Chester, R. Lee	D.C.	B.S. 1950, University of Illinois	
Chester, Russell Gilbert	Va.	Christie, Edward Ashby	Mass.
Chetnut, Warren Lynwood		Christie, Peter	Mass.
Chever, Leslie	D.C.	Christie, Ruth	Ill.
B.S. 1950, American University	Va.	Christmas, Eleanor Barroll	D.C.
Champi, Edward Ronald	Pa.	A.B. 1926, The George Washington University	
Chatter, Joseph Charles	Md.	Christmas, Walter Frederick	D.C.
B.S. 1950, Georgetown University		B.S. 1919, United States Naval Academy	
Chetester, Sidnor Tebbs, Jr.	D.C.	M.S. 1924, Massachusetts Institute of Technology	
Chen, Tsun-tung	D.C.	Christoph, Mary Joan	D.C.
LL.B. 1947, Catholic University of China		Christy, Frances French	Pa.
Child, Daniel Keigwin	Md.	Chryssis, Joseph E.	D.C.
Chid, James Robert	Va.	A.B. 1951, The George Washington University	
A.B. 1949, Princeton University		Chu, Enoch	N.Y.
A.M. 1950, University of Pennsylvania	D.C.	Chubbuck, Dorothy	N.Y.
Chiders, H. Malcolm		Cherk, Wong	Hawaii
B.S. 1950, University of Maryland	Va.	Chidom, Peter Francis	Md.
Chids, James Thornton	Va.	B.S. 1947, University of Chicago	
Chies, Gloria Reed	D.C.	Ching, Bo Song	Fla.
A.B. 1944, Morris Harvey College		B.S. 1951, American University	
Chio, Robert		Ching, Josephine Yo Hui	D.C.
A.B. in Govt. 1949, The George Washington University	Hawaii	Church, Lloyd Eugene	Md.
Ching, Donald Dai Heong		A.B. 1940, West Virginia University	
A.B. 1950, University of Hawaii	Calif.	D.D.S. 1944, University of Maryland	
Chom, Ruby	Va.	M.S. 1951, The George Washington University	
Chopman, Marcia Ann	Calif.	Churchill, Morton Vincent	Va.
Choppen, Jane James Ellsworth		A.B. 1941, The George Washington University	
Choraz, Persephone	Va.	Churchwell, Paul Brighton	D.C.
B.S. 1949, Georgetown University	Calif.	Clavette, Eli I.	D.C.
Chum, Robert Loran	D.C.	A.B. 1951, University of Maryland	
Chum, Richard John	Va.	Charkova, Louis Jr.	N.J.
B.S. 1949, University of Scranton	Md.	Clatto, Santos Joseph	D.C.
Chun, Louis Joseph	Pa.	Clavatta, Vincent Alexander	N.J.
B.S. in Ch. E. 1950, Purdue University	Ind.	Cia, Svetomir	D.C.
Chunola, Ju-a Robert	Va.	M.L. 1948, University of Belgrade	
B.S. in Phil. 1951, West Virginia University		J.D. 1941, University of Rome	
Washington University	Pa.	Cicento, Robert Frank	D.C.
Chun, Fao Wayne	Pa.	Cimikowski, Edwin William	Pa.
Chun, Richard Adolph	D.C.	LL.B. 1941, Southeastern University	
Chun, Lue K. Kung	India	LL.M. 1942, National University	
B.S. 1948, Georgetown University	D.C.	Cincirpini, Dominick	Va.
Chorony, John Marian	D.C.	B.S. 1950, University of Pittsburgh	
Chotoper, Allan Isadore	Md.	Cinello, Basil L.	Mass.
A.B. 1937, Pennsylvania State College		Ciana, Frances Lathrop	D.C.
Choward, Edward L.	D.C.	B.S. 1950, The George Washington University	
A.B. 1949, Montana State University	D.C.	Cissel, John Patrick	D.C.
Chow, Kenneth, Miema Mia	D.C.	Citak, Eleanor Dorothy	Ohio
Chow, Dong lan	D.C.	A.B. 1949, Western Reserve University	
Chow, Luey Wei	China	Citron, Robert W.	N.Y.
Chriver, Donald	D.C.	Coffreda, Yocinda	D.C.
B.S. 1949, University of Michigan	Md.	Cirex, James Francis	D.C.
Christ, Cate M.	D.C.	Claffy, Kathleen Helen	D.C.
Christensen, Clarence Peter	D.C.	B.F.E. 1948, University of Minnesota	
A.B. 1941, Montana State University	Md.	Clarest, Charles Lee	D.C.
Christensen, Ellen Elizabeth	Va.	Claborn, Harold Glenn	Md.
Christensen, Genevieve Mary	Va.	Clancy, Philip Christopher	N.Y.
Christina, Reginald Howard	Md.	Clanton, Samuel Mason, Jr.	Va.
B.M.E. 1950, The George Washington University	Mch.	Clardy, William Weldon	S.C.
Christian, Walter	Okla.	Clark, Albert Philip	N.H.
Christian, Fred Kjargaard	N.J.	Clark, Allen Caring	D.C.
B.S. 1937, Midland College	Nebr.	A.B. 1949, The George Washington University	
		Clark, Roswell Johnson, Jr.	Va.
		Clark, Charles Henry	Iowa
		Clark, David Sherman Rockwell	D.C.
		Clark, Doris Ridpath	D.C.

Clark, Faith	Mass.	Climpson, Harley Ronald	Va.
Clark, George Henry	Md.	A.B. 1949, The George Washington University	Md.
B.S. 1949, The George Washington University		Clingenpeel, Calvert Hoff	Va.
Clark, George Ordway	Va.	Clinkston, Philip	Va.
Clark, Hamilton Jack	Va.	B.S. 1943, University of Michigan	
Clark, Hunter James, Jr.	W.Va.	M.S. 1948, The George Washington University	
Clark, James Farrell	Md.	Clinton, Wilma May	N.J.
Clark, James Harry	Va.	Cloe, William Weedon, Jr.	Ind.
Clark, James Leonard	Ga.	A.B. 1949, William and Mary College	Mass.
I.L.B. 1951, The George Washington University		Close, David Olaf	Va.
Clark, Jocelyn Lynn	Fla.	Cloud, Albert Morgan, Jr.	Va.
Clark, Joseph, Jr.	D.C.	Closherty, Mary Melania	Va.
Clark, Lowell Dean	Minn.	A.B. 1951, Emmanuel College	D.C.
Clark, Malcolm Cameron	D.C.	Closter, Jacqueline Whitmer	
Clark, Marilyn June	Md.	Closter, William Fleming, Jr.	
Clark, Marjorie Ida	Ill.	Closter, Rita Gertrude	
I.L.B. 1945, A.B. 1948, The George Washington University		A.B. in Govt. 1950, The George Washington University	
Clark, Marjorie Solbeck	D.C.	Cluff, Norman Albert	
Clark, Miles Morton	Minn.	Cockley, David Huddleston	
A.B. 1943, Macalester College		Cockles, Elizabeth Ann	
Clark, Raymond Dykes	Va.	Coates, Catherine Lyla	
B.S. 1948, University of California at Los Angeles		Coates, Ruth Jean	
Clark, Robert Elliott, Jr.	Del.	Cobb, Charles David	
A.B. 1950, Dickinson College		A.B. 1949, A.M. 1949, East Carolina State Teachers College	
Clark, Roland Ellis	Md.	Cobb, Denis Bennett	
Clark, Ruth Ann	Va.	Cobb, Gladys Irene	
A.B. 1951, Wellesley College		Cobb, Leonard Cowell	
Clark, Ruth Anne	R.I.	B.S. 1949, University of Washington	
B.S. 1947, Rhode Island State College		Cobb, Thomas Lambert	
Clark, Sarah S.	Pa.	B.S. 1949, The George Washington University	
Clark, Victoria Chapel	D.C.	Cochran, Corinne Haddad	
B.S. in Ed. 1929, Columbia University		Cochran, Dean W.	
Clarke, Addison	Md.	B.S. 1949, University of Southern California	
B.S. 1951, The George Washington University		Cochran, Gracia Alice	
Clarke, James Brent, Jr.	D.C.	Cochran, Robert Thomas, Jr.	
Clarke, June Marie	Va.	B.S. 1948, A.M. 1950, Georgetown University	
Clarke, Lewis Lynn	Va.	Cochran, Virginia Lewis	
Clarke, Roy Clayton, Jr.	Md.	A.B. 1949, Brenau College	
A.B. 1949, Cornell University		A.M. 1945, University of West Virginia	
Clarke, Thomas McTyghe	Va.	Cochrane, Walter Earl	
A.B. 1948, The George Washington University		B.S. 1944, M.S. 1945, University of Pennsylvania	
Clay, Barbara Ann	Fla.	Cock, Anne Renilda	
Clayton, Christopher Sudlow	D.C.	A.B. in Ed. 1947, Longwood College	
Clayton, William Joseph	Mo.	Cock, Thomas Charles	
Cleary, Jeanne Aubrey	D.C.	Coddington, Robert Ellsworth	
Cleary, John Herbert	D.C.	Coe, Andrew Stephenson	
Cleary, June Marie	D.C.	Coe, I. Dayton	
Cleaver, William Frank	Va.	Coe, Mel Fred Hart	
Clegg, Gomer Wood	Mass.	Coffelt, Mary Elizabeth	
Clem, LeRoy Hoffman		Coffey, Betty Maxine	
A.B. 1946, Boston University		Coffey, Hubert Franklin	
M.S. 1949, Massachusetts Institute of Technology		Coffey, Robert Arthur	
Clement, Charles Bennett	Fla.	Coffey, Robert T. Le	
A.B. in Govt. 1951, The George Washington University		Coffey, Robert T. Le	
Clemente, Antonette G.	D.C.	B.S. 1948, Wake Forest College	
Clemente, Guadalupe LaLoma	Pa.	Coffin, Charles Franklin	
Cleveland, Stanley Russell	Va.	A.B. 1951, The George Washington University	
Clevinger, French Mayes, Jr.	Va.	Coffin, Edward Warren	
A.B. 1934, Emory and Henry College		B.S. 1950, University of Maryland	
Clifford, Mary R.	Tenn.	Coffin, James Clyde	
A.B. 1950, The George Washington University		Coffman, Clara Lillian	
Clifton, Elizabeth Hope	D.C.	A.B. in Ed. 1948, The George Washington University	
Clifton, Ernest Rudley	D.C.		



# Students Registered

443

Cogan, George Winfred	D.C.	Coleman, James Edward	Va.
Coggeshall, Myrtle Edith	Ill.	B.S. 1946, United States Military Academy	
Cogliano, Joseph Albert	N.Y.	Coleman, John William	Va.
B.S. 1951, Brooklyn Polytechnic Institute		Coleman, Joseph Lustrat	Ga.
Cohan, Philip Cedric	D.C.	Coleman, M. Margaret	Va.
Cohen, Alvin	D.C.	B.S. 1941, University of Virginia	
Cohen, Anna Anat	D.C.	Coleman, Margaret Bakeman	Va.
A.B. 1948, Hunter College		Coleman, Mary Ellen	D.C.
Cohen, Barbara Florence	D.C.	B.S. 1937, Madison College	
Cohen, Betty Lee	D.C.	A.M. in Ed. 1950, The George Washington University	
Cohen, David	Md.	Coleman, Nancy	Idaho
Cohen, David Israel	D.C.	A.B. 1942, Smith College	
Cohen, Donald Sidney	D.C.	Coleman, Robert G. Jr.	Va.
B.S. 1947, University of Maryland		Coleman, Thomas Joseph	D.C.
Cohen, Faye Barbara	Pa.	Colevas, Prokopos	D.C.
Cohen, Gerald Stanley	D.C.	A.B. 1951, The George Washington University	
B.S. in E.E. 1950, City College of New York	Va.	Colfax, Raymond Eugene	Va.
Cohen, Harold Konrad	D.C.	A.B. 1950, University of California	
Cohen, Herbert	D.C.	Coleman, Richard Shaw	Va.
Cohen, Joe Harvey	N.Y.	B.S. 1942, M.F. 1949, New York State College of Forestry	
Cohen, Leila Barbara	N.Y.	Colglazier, Merle Lee	Colo.
Cohen, Melvin	D.C.	A.B. 1948, University of Colorado	
A.B. 1948, Brooklyn College		Coll, Robert Wilson	D.C.
B.S. 1949, The George Washington University	D.C.	Coll, William Herbert	Calif.
Cohen, Milton	D.C.	Collins, Benjamin Gilbert	D.C.
B.S. 1948, Boston University		B.S. 1948, Union College	
Cohen, Norman Sunny	D.C.	Collins, Shirley Ann	N.Y.
Cohen, Robert Henry	D.C.	Collins, Clyde Earl	D.C.
Cohen, Ross Benjamin	D.C.	Collins, Edwin	N.J.
A.B. 1949, L.L.B. 1950, The George Washington University		A.B. 1949, L.L.B. 1951, The George Washington University	
Cohen, Sheldon Stanley	Md.	Collins, Jack Wayne	Va.
A.B. 1950, The George Washington University		Collins, Norma Jean	S.D.
Cohen, Leonard Earl	Md.	Collins, William Lee	D.C.
A.B. 1950, The George Washington University		Collins, Mary Louise	Va.
Cohen, University		A.B. 1948, Wesleyan College	
Cornin, Emilio Vincent	D.C.	A.M. 1946, Northwestern University	
Cortinas, Nicholas Trephon	D.C.	Collins, Beulah	Miss.
A.B. 1941, A.M. 1948, The George Washington University		Collins, Edward Frank	N.Y.
Coker, Robert Harry	D.C.	Collins, Eugene Joseph, Jr.	D.C.
Collins, Adrienne Gloria	Md.	Collins, Helen Musterey	Md.
Collins, James Michael	Md.	A.B. 1941, Florida State University	
Collins, Daniel Albert Jr.	Va.	A.M. 1949, University of Florida	
A.B. 1947, Shepherd College	Va.	Collins, James Lawrence	D.C.
Collins, Robert Chester		Collins, John Joseph	Mass.
Collins, John Andrew III	Md.	A.B. 1949, University of Missouri	
Collins, Paul Appleby	D.C.	A.M. 1950, University of Georgia	
Collins, Sara Kathleen	D.C.	Collins, John LeRoy	Mich.
Cole, Andrew Truman	Md.	A.B. 1950, Michigan State College	
Cole, Arnold Harvey	Va.	Collins, Joseph	D.C.
B.S. 1947, College of the City of New York	N.Y.	Collins, Joseph John	Pa.
Cole, Charles Alexander, Jr.		Collins, Kelly	Fla.
Cole, Dunstan Mabel	Ga.	A.B. 1942, John B. Stetson University	
Cole, Emser William, Jr.	D.C.	Collins, Kenneth Claude	Colo.
A.B. 1940, L.L.B. 1942, University of North Carolina	N.C.	Collins, Mary Alice	D.C.
Cole, Ferguson Earl		Collins, Michael Joseph	N.Y.
Cole, Gary Vance	D.C.	Collins, Morris Russell	Va.
Cole, John Vandeleer, Jr.	D.C.	Collins, Nanas Marguerite	Calif.
Cole, Marjorie June	D.C.	Collins, Philip Reilly	La.
Cole, Milton Burns	Md.	A.B. 1949, L.L.B. 1942, Loyola University	
Coleman, Florence Murr	Kans.	A.M. 1948, Ph.D. 1950, Georgetown University	
A.B. in Govt. 1950, The George Washington University	Md.	Collins, Wallace Eddy	Vt.
	S.C.	Collins, William Thomas	Va.
	Va.	Collins, William Timothy	N.Y.
		A.B. 1948, The George Washington University	

Collis, Lester Leon	N.D.	Connolly, Mary Teresa	
B.S. 1950, North Dakota Agricultural College		A.B. 1951, Emmanuel College	
Collomb, Henry Louis	Md.	Connor, Charles David	
Coll-Pardo, Max Luis	Fla.	A.B. 1949, East Carolina Teachers College	
Colm, Claus Hans	Va.	Connor, Daniel Allman	
Colman, Morton Eugene	Ohio	A.B. 1955, The George Washington University	
A.B. 1950, Western Reserve University		A.M. 1949, Texas Wesleyan College	
Colter, Stanley, Jr.	N.Y.	Connor, Harriet Elizabeth	
A.B. 1952, Syracuse University		Connor, Jerome Francis	
Colvin, Bruce Steele	D.C.	Connor, Louis Milton	
Comer, Lucille	W.Va.	B.S. 1940, Maryland State Teachers College, Frostburg	
Comerford, Mary Jane	Mass.	Ed.M. 1947, University of Maryland	
A.B. 1949, Trinity College		Connor, William Kirkwood	
A.M. 1951, Radcliffe College		A.B. 1949, Brown University	
Comiskey, Emmett Jerome	Ill.	Connors, James E.	
B.S. in F.S. 1949, Georgetown University		B.S. 1952, University of Utah	
Compton, Doris Ann	Md.	Conrad, Paul Rawson	
Comulada, Gloria Marie	Puerto Rico	B.S. 1949, University of Kansas	
B.S. 1945, Mary Washington College		Conrad, Shirley Myrtle	
M.S. 1948, The George Washington University		Conrad, Voris Ray	
Comulada, John Raymond	Md.	Conroy, James Joseph	
Comulada, Manuel	Md.	Conte, Joseph Phillip	
Comulada, Manuel Paul	Md.	Conti, John William	
Conant, Robert Charlton	Va.	A.B. 1951, Bowdoin College	
A.B. 1951, The George Washington University		Conti, Reno Joseph	
Conason, Emanuel Voltaire	Va.	B.S. in Ed. 1948, University of Vermont	
A.B. 1951, The George Washington University		Continetti, Frank Edward	
Concecha, Katherine Broderick	R.I.	Contos, William Harry	
Concini, Norma Gloria	Pa.	Conrada, Vincent Anthony	
Condee, Joan Marshall	D.C.	Conway, Emmett Gaddis, Jr.	
Conklin, Harvey Badeau	D.C.	A.B. 1950, The George Washington University	
A.B. 1951, Ohio Wesleyan University		Conway, James Norman	
Conley, Kenneth Alvin	W.Va.	Conway, Roger Clement	
Conley, Mary Katherine	Va.	Conwell, Emma Mary	
Conlin, Mary Lou	D.C.	Conzelmann, Gaylord Maurice	
Conlon, James Ambrose	N.Y.	B.S. 1949, Idaho State College	
Conlon, James Charles	Ind.	Cook, Albert B.	
B.S. 1944, University of Notre Dame		Cook, Edward Magruder	
Conn, George Trask	Ill.	A.B. 1949, University of Arkansas	
Conn, Mabel V.	D.C.	Cook, Frances Rowena	
A.B. 1938, University of Mississippi		Cook, Harriet Boudinot	
Conn, Marjorie Ada May	D.C.	A.B. 1940, Middlebury College	
Connell, Eugene Ambrose, Jr.	Md.	Cook, Helen Acker	
A.B. in Govt. 1951, The George Washington University		Cook, John Mason	
Connell, John Gibbs, Jr.	Va.	Cook, John Paul	
Connell, Virginia Agnes	Conn.	Cook, Lena Anne	
Connolly, Bernard Lawrence	La.	Cook, Marion Francis	
B.S. 1950, Georgetown University		Cook, Mirtha Ellean	
Connolly, Carole Gladys	D.C.	Cook, Mary Jane Katherine	
Connolly, Edward Charles	D.C.	B.S. 1949, College of William and Mary	
Connolly, Edward Ray	D.C.	Cook, Richard Selon	
Conner, Evelyn Kirby	Va.	B.S. in P.S. 1951, Georgetown University	
Conner, Ray Bradford, Jr.	Va.	Cook, Wendell Burnham, Jr.	
Connerston, Joseph John	Pa.	Cooke, Edward Andrew	
B.L.E. 1940, Catholic University of America		Cookerly, Ernest S.	
Connerston, Robert Joseph	Pa.	A.B. 1940, Western Maryland College	
B.S. in B.A. 1949, University of Scranton		A.B. 1950, University of Maryland	
Concedes, John Francis, Jr.	Va.	11 B. 1950, Edward	
Connolly, Barbara	D.C.	Cool, Paul Edward	
Connolly, Helen Louise Cumin	Mass.	Coolley, Ann Frances	
A.B. 1938, A.M. 1950, The George Washington University		A.B. 1949, Manhattanville College of the Sacred Heart	
Connolly, James Andrew	N.Y.	Coolley, Roger A.P.	
Connolly, John Francis	Mass.	Coolidge, Kathryn Jean	
Connolly, John Stoddard, Jr.	N.Y.	Coombs, Richard Arthur	
		Coonan, John Sturgis	
		Cooney, Virginia Thompson	
		B.S. 1949, Syracuse University	

# Students Registered

445

Coopchik, Naomi Sharon					
Cooper, Anna Marie					
Cooper, Burton					
Cooper, Daniel					
Cooper, David Young					
M.D. 1948, University of Penn-					
sylvania					
Cooper, Edward Gabriel					
Cooper, Eli					
Cooper, Emmett Monroe					
Cooper, George Honess					
B.M.E. 1951, The George Washington					
University					
Cooper, Harrison Lee					
Cooper, Jack Ross					
A.B. 1948, Queens University, Canada					
Cooper, Joseph Emerson					
A.B. 1938, University of Indiana					
Cooper, Paul David					
A.B. 1948, Western Maryland College					
Ed.M. 1942, University of Maryland					
Cooper, Samuel					
B.S. in Ed. 1936, College of the					
City of New York					
LL.B. 1918, J.S.D. 1939, St. John's					
University					
A.B. 1951, Johns Hopkins University					
Cooper, Thomas Schane					
Coover, Mullen Oyle					
A.B. 1942, Shepherd College					
M.S. 1947, University of West					
Virginia					
Copane, Daniel John					
A.B. 1951, Union College					
Cope, Estelle Meyer					
Cope, William Willard					
Copes van Hasselt, Roelof Hendrik Albert					
Copley, William Gordon					
Copps, Julia Ann					
A.B. in Ed. 1948, The George					
Washington University					
Coppe, Arthur Maxim					
A.B. 1949, University of Virginia					
Copperman, Howard Robert					
Coppey, Andrew John					
Copsey, Jesse Fabian					
A.B. 1950, San Diego State College					
Corbett, Nancy Jane					
Corbin, Douglas Tenny					
B.S. 1957, St. Lawrence University					
Corbin, Michael Ezer					
A.B. 1948, Georgetown University					
Corcoran, Catherine Elizabeth					
A.B. 1941, De Paul University					
Corcoran, Donald Gerald					
Corcoran, Joseph Richard					
A.B. 1951, Catholic University of					
America					
Cordun, Damon Nicholas					
Cordus, Alex Michael					
Cotey, Alexander					
A.B. 1946, St. Lawrence University					
Cotterman, Matvey Hughes					
B.S. & B.A. 1949, Boston University					
Corn, Irene S.					
Corn, Palmer Boyd					
B.S. 1919, Murray State Teachers					
College					
Corn, Ronald Maurice					
Cornell, Clara Elizabeth					
Cornell, Herbert Daniel					
Cornell, William Jay					
Cornish, LeRoy William, Jr.					
Cornwell, Walter Aden					
Cornwell, Ernest Roy					
Corona, Paul John					
Corrado, Michael Anthony					
A.B. 1949, The George Washington					
University					
Correa, Manuel Angel					
Corrigan, Beverly T.					
Corleyou, Frank Morgan, Jr.					
B.S. in C.E. 1948, University of					
Missouri					
Cortner, Howard Max					
E.E. 1942, University of Cincinnati					
Corvin, Alice Elizabeth					
B.S. in H.E. 1950, The George					
Washington University					
Corwin, Leonard Joel					
B.S. 1947, Rutgers University					
Cosby, Alger Hubert					
Cosgrove, Thomas Edward					
Cosing, Arthur Paul, Jr.					
B.S. 1950, University of Maryland					
Costa, Jasper Silva					
A.B. 1947, Brown University					
LL.B. 1911, Cornell University					
LL.M. 1948, Georgetown University					
S.J.D. 1951, The George Washington					
University					
Costantino, Joan					
A.B. 1945, Cornell University					
Costanzo, Sue					
Costas, Andrew Nick					
B.S. 1949, University of Pittsburgh					
Costas, Raul, Jr.					
B.S. 1949, Villanova College					
Costello, Bartley Alexander					
Costello, Elinor Agnes					
Costello, John Henry, Jr.					
A.B. 1950, University of Cincinnati					
Costelloe, A. M. Valerie					
Cosmett, John Henry					
Coston, Oriana Bassett					
A.B. 1932, East Texas State Teachers					
College					
Cosway, Paul Richard					
A.B. 1919, Denison University					
LL.B. 1942, University of Cincinnati					
Cotten, Rebecca Anne					
Cotter, George Roland					
Cottrell, Walter Nevins					
Couble, Alexander John					
B.S. 1919, United States Naval					
Academy					
Coughlin, Robert Stanford					
Coulter, Patricia Florence					
A.B. 1945, University of Michigan					
Coulter, Raa Dorell					
A.B. 1932, Elon College					
B.D. 1934, Vanderbilt University					
Coultrap, Susan Ann					
Coultrap, Raymond Laverne					
Council, Dorothy Irene					
A.B. 1913, Smith College					
Counelis, Mabel Harriet					
Compar, Elizabeth Mary					
B.S. 1939, Madison College					



Couper, William Paul	D.C.	Craig, Thomas Edwin	
Comperthwaite, Charles	D.C.	Craighill, Mary Nute	
Court, John Martine	Md.	A.B. 1951, The George Washington University	
B.S. 1936, United States Naval Academy		Crain, Bennett, Jr.	
Courtney, Joseph Clarence III	Pa.	Crain, Mary Lyal	
Courry, Alphonse Paul	Mass.	Crandell, William Palmer	
Courry, Frank Anthony	Mass.	Crank, Terrell Harvey	
Courry, Sam Joseph	Mass.	Crankshaw, Harold George	
Cousins, Joan Lee	D.C.	B.S. 1928, Carnegie Institute of Technology	
Cousins, Mary Elizabeth	D.C.	A.M. 1932, Cornell University	
A.B. 1949, Wheaton College		Craven, John Pinna	
A.M. 1950, Catholic University of America		B.S. in C.E. 1946, Cornell University	
Covington, Christine Vianna	Miss.	M.S. in C.E. 1947, California Institute of Technology	
Cowan, Frederick Fletcher, Jr.	D.C.	Ph.D. 1951, University of Iowa	
Coward, Daniel Couch	Tex.	Cravens, Alyn Thayer	
Cowherd, Patricia Jeannette	Md.	Crawford, Armon Davis Acheson	
Cowling, Zoe Elaine	Md.	B.S. 1919, United States Naval Academy	
Cowperthwaite, Thomas Roy	Pa.	Crawford, Ethel Mae	
Cowser, Charles Crump	Va.	Crawford, Howard Irvin	
A.B. 1927, King College		Crawford, Rachel Floise	
B.D. 1941, Th.M. 1942, Union Theological Seminary		Crawley, Roy Wallace	
Coz, Herman Paul	Va.	A.B. 1948, University of California at Los Angeles	
Coz, Omer Lorraine	Ill.	Creamer, Paul James	
A.B. in Ed. 1949, The George Washington University		Credle, Joseph Swindell	
Coz, Philip Sidney	Md.	Creedon, Agnes Cecelia	
A.B. 1947, Mercer University		Creekmore, Russell Whitfield, Jr.	
Cox, Thomas Edwards	Va.	B.S. in P.E. 1951, The George Washington University	
Cox, Virginia Olivia	W.Va.	Cress, William Martin	
Cox, William I. N., Jr.	D.C.	A.B. 1949, Duke University	
Coxe, William Elford	S.C.	Cress, James John	
A.B. 1941, University of South Carolina		Cress, Dorothy Ann	
Coxen, Winona Carmalee	W.Va.	A.B. 1948, High Point College	
Coxie, Charles Frank	Tenn.	Cresswell, Edward Rowland	
Coxie, James Joseph	Mont.	Cresswell, Richard Nicholas	
L.I.B. 1948, The George Washington University		Cresswell, Thomas Jefferson	
Coxie, Larry Walter	Mo.	Creswell, Cyrus Robbins	
Coxie, Rowan Joseph	Md.	Cribbs, Vance N.	
B.S. 1941, Union College		Crichton, Charles Franklin	
Coxie, Joseph Patrick	Md.	Crickenberger, Ira Jethro	
A.B. 1949, St. Ambrose College		Crisler, James John	
Coxner, Eugene Arthur	Md.	Crisler, William Alton	
Coran, Lee William	D.C.	B.S. 1951, Madison College	
A.B. 1948, American University		Crisler, John F.	
Craibtree, Robert Herman	Idaho	Crist, Robert H.	
Cramond, James Murray	Va.	B.S. in Ed. 1951, Pennsylvania State Teachers College, Lockhaven	
B.S. in C.E. 1945, Tulane University		Criswell, Howard Donald	
Cradlock, William Wood	D.C.	Critzer, James Alfred, Jr.	
Cradock, Jacqueline Ida	D.C.	Criswell, Cameron Walter	
Craig, Clara R.	D.C.	Crocker, Robert Thomas	
Craig, Robert Wayne	Va.	Crocker, Robert Warner	
Craig, Albert Gallatin, Jr.		Crockett, Warren Reed	
B.S. in M.E. 1947, University of Kentucky		Croft, Janet Alice	
Craig, Camille Jacob	D.C.	Cromer, Harry Dale, Jr.	
B.S. in Ed. 1942, The George Washington University		Cron, Benjamin Frederick	
Craig, Carl Edward	Md.	B.S. 1952, McGill University	
Craig, George Arthur	Va.	Cronin, Catherine Viola	
Craig, Harold Conesworth	D.C.	B.S. 1950, American University	
A.B. 1951, American University		Cronk, Edwin Monroe	
Craig, Louis G.	W.Va.	A.B. 1941, Cornell University	
A.B. 1952, West Virginia University		Crooke, Robert Gladdon	
Craig, Paul Max, Jr.	Md.	B.S. M.S. 1949, Massachusetts Institute of Technology	
B.S. in E.E. 1946, Worcester Polytechnic Institute		Crosby, Anne Elizabeth	
L.I.B. 1950, Georgetown University		Crosby, Herbert Lee	
Craig, Peter Noel	N.Y.	Crosby, John Raymond	

# Students Registered

447

Cross, Calvin George B.E.E. 1951, The George Washington University	D.C.	Cullom, Pearl Gardner	Miss.
Cross, Harold Junior		Cullom, Peter Edwin	Miss.
Cross, M. Collier		A.B. 1926, Mississippi College	
Cross, Nancy Roberts	W Va.	Cullom, William Otis	Ala.
Crosst, Theresa Marie	W Va.	Culp, Theodore Francis	D.C.
Crosfield, Louise Tonnie	D.C.	Culver, John Ross	Mich.
A.B. 1932, Central State College, Oklahoma	N.Y.	Culver, William Bruce	Pa.
Crosman, William Frank	Okla.	Cummer, John Robert	D.C.
Crosmon, Robert Venneman		Cummings, Frank	Md.
A.B. 1947, University of Texas	Va.	Cummings, George Patrick	Md.
Crotshaw, Jeanette Constance	Tex.	Cummings, James T.	Md.
Crow, H. H. W. Wilson		A.B. 1942, M.S. 1946, Fordham University	
Crow, Robert Brighton	N.H.	Cummings, Martin William	Conn.
Crow, Robert Cullen	N.Y.	A.B. 1951, The George Washington University	
Crow, Robert Cullen	Idaho	Cunningham, Richard Lee	Ill.
Crow, Robert Cullen	Md.	Cuniberti, Roberto	Md.
Crow, Robert Cullen	W Va.	A.B. 1949, Princeton University	
Crow, Robert Cullen	D.C.	A.M.T. 1951, Harvard University	
Crow, Robert Cullen	D.C.	Cunliffe, James William	Calif.
Crow, Robert Cullen		A.B. 1944, Pomona College	
Crow, Robert Cullen		A.M. 1947, Claremont Colleges	
Crow, Robert Cullen		Cunningham, Carol Joan	D.C.
Crow, Robert Cullen		Cunningham, Carolyn Josephine	Okla.
Crow, Robert Cullen		Cunningham, Carolyn Marylaine	D.C.
Crow, Robert Cullen		Cunningham, Catherine Beatrice	Okla.
Crow, Robert Cullen		Cunningham, James Alvin	Va.
Crow, Robert Cullen		Cunningham, Jerry Miles	Va.
Crow, Robert Cullen		Cunningham, Mary Jane Catherine	Va.
Crow, Robert Cullen		Cunningham, Robert James	Pa.
Crow, Robert Cullen		Cunningham, Robert Kuhlman	Va.
Crow, Robert Cullen		A.B. 1947, University of Michigan	
Crow, Robert Cullen		Cunningham, William Edward	Ariz.
Crow, Robert Cullen		B.S. in M.E. 1947, University of Colorado	
Crow, Robert Cullen		Cupp, Florence Lorena	W Va.
Crow, Robert Cullen		Curtis, William Angelo	Ohio
Crow, Robert Cullen		Curtis, Helen Carolyn	Pa.
Crow, Robert Cullen		Curtis, Michael Joseph	Va.
Crow, Robert Cullen		Curtis, Jean Frances	Mass.
Crow, Robert Cullen		A.B. 1947, Rocky College	
Crow, Robert Cullen		Cutcliffe, Veri Albert	D.C.
Crow, Robert Cullen		Cutler, John Daniel	Md.
Crow, Robert Cullen		Cutler, Lavinia Morgan	D.C.
Crow, Robert Cullen		Currier, Wade Richardson	D.C.
Crow, Robert Cullen		A.B. 1953, The George Washington University	
Crow, Robert Cullen		Cutler, Eleanor Gayle	Va.
Crow, Robert Cullen		B.S. 1955, Virginia State Teachers College, Farmville	
Crow, Robert Cullen		Cutty, Bryce Quantan	Ala.
Crow, Robert Cullen		A.B. in Hist. 1951, The George Washington University	
Crow, Robert Cullen		Cutty, Elizabeth Battenworth	Va.
Crow, Robert Cullen		A.E. 1946, Greensboro College	
Crow, Robert Cullen		A.M. 1948, University of North Carolina	
Crow, Robert Cullen		Cutty, Mary Catherine	D.C.
Crow, Robert Cullen		B.S. 1942, New York State College for Teachers, Albany	
Crow, Robert Cullen		A.M. in Ed. 1953, The George Washington University	
Crow, Robert Cullen		Cutty, Raymond Glen, Jr.	Va.
Crow, Robert Cullen		Cutty, Stewers Leigh	Va.
Crow, Robert Cullen		A.B. 1948, L.L.B. 1950, The George Washington University	
Crow, Robert Cullen		Cutty, Richard Vincent	D.C.
Crow, Robert Cullen		Cutty, Apen Benjamin	Ohio
Crow, Robert Cullen		B.Ch.E. 1943, Penn. College	
Crow, Robert Cullen		Cutty, Caroline Alexander	Va.
Crow, Robert Cullen		Cutty, Elliott Levine	Md.
Crow, Robert Cullen		B.S. 1950, University of Maryland	

Curtis, Harry Lee A.B. 1949, Emory University	Md.	Dalseg, John William Dalton, Eileen Elizabeth A.B. 1951, The George Washington University
Curtis, Kenneth Edward	D.C.	
Curtis, Mattie McCain	Va.	
Cusyea, Stanley LeBolt A.B. 1947, Washburn Municipal University of Topeka	Hawaii	Dalton, James Edward Dalton, Jonas Monroe Dalton, Mildred Louise Daly, Elizabeth Teresa Daly, G. Kelsa
A.M. 1948, Ohio State University	Mass.	Daly, James Patrick A.B. 1947, Harvard University
Cushman, Solomon Frederick, Jr. A.B. 1949, Amherst College	Va.	Daly, Janet Audrey Daly, John Daly, John Joseph A.B. 1949, The George Washington University
Custard, Robert Franklin B.S. 1950, The George Washington University	Pa.	
Cutajar, Frank Hickman B.S. 1948, Pennsylvania State Teachers College, Westchester	Md.	Damaso, Jose Carvalho Dammata, Maria Helena D'Ambrosio, Mario Petro Dambroski, Stanley George Dane, George Albert Dameron, Frank Irving, Jr. A.B. 1950, Mount Saint Mary's College
Cutler, Herbert Louis	Mich.	
Cutler, Charles Vincent	Va.	D'Amico, Albert John B.S. 1948, American University A.B. 1950, The George Washington University
Cutright, Carl Richard	Va.	
Cuzzema, Salvatore Joseph	D.C.	
Cuzzema, Marbelle Frances Cuzzema, Frank B.S. 1947, Brooklyn College	D.C.	
Cyphers, Russell James	Fla.	
Cyr, Robert Joseph A.B. 1949, American International College	Mass.	
Czykowski, Stanley Thomas B.S. 1951, University of Delaware	Del.	Dana, Marshal Merritt A.B. 1951, United States Naval Academy B.S. 1952, Pennsylvania State College
Czykowski, Theodore B.S. 1951, Georgetown University	Mass.	D'Andrea, Amelia Rose Dane, Michael Nicholas Danford, James Arthur B.S. 1950, University of Dayton Danforth, Murray Snell, Jr. A.B. 1948, Yale University Dane, Maybelle Marr A.B. 1945, University of California Daniel, Barry Lloyd Daniel, Howard Bernard Daniel, Robert Herman A.B. 1950, The George Washington University
D		
da Costa, Amerina Moura	Brazil	Daniel, Sidney Theodore A.B. 1942, New York University
Daly, Norman Elizabeth B.S. 1948, Concord College	W Va.	Daniels, Anne Blanchard Daniels, Margaret Moore Daniels, Margaret Janice Daniels, Mary Catherine Daniels, Miss Devey Daniels, William John Dandowicz, Pascal Joseph B.S. 1948, Wilkes College Dankulash, Anna Vilma B.S. 1950, Marywood College
Dane, Wilmer Lytle B.S. in F.F. 1943, Kansas State College of Agriculture and Applied Science	Kans.	Dannaway, George B.S. 1950, Pennsylvania State Teachers College, Lock Haven Dannelly, Frank Perry A.B. 1941, University of Alabama Dannenhusch, Albert B.S. 1947, Temple University Dima, John Nicholas Danz, Norbert Earl Danzon, John DuBree Danzon, Solomon Albert B.S. 1950, The George Washington University
Darbes, Eugene Michael	Pa.	
Dar, Roy Leslie	D.C.	
Darles, Francis Joseph B.S. 1949, Georgetown University	Fla.	
Darley, Irene Patricia	D.C.	
Darley, Robert Joseph	Md.	
Darley, Robertson Currie B.S. 1950, United States Naval Academy	Mont.	
Darby, James Allen A.B. 1951, University of California	D.C.	
Darvey, Roy L.	D.C.	
Darby, Bernard David A.B. 1946, Brooklyn College M.S. in P.H. 1948, Columbia University	Va.	
Darby, William Edward A.B. 1949, University of Idaho	Va.	
Darby, Anna Lee	Calif.	
Dale, Adelaide Sybil A.B. 1950, Western Washington College of Education	Va.	
Dale, Carolyn Olson	D.C.	
Dale, John Ebert	D.C.	
D'Alessandro, Angelo Michael	N.Y.	
Dalacanton, Anthony Joseph	Pa.	
Daley, Betty Jane	Conn.	
Daley, John Nicholas Dalaise, Emile Andre A.B. 1951, The George Washington University	Md.	
Dallas, Van Balliet	Md.	
Dallman, Roland R.	Wis.	
Dalton, Caston Clarence	Pa.	



Darby, Angela Elberth A.B. 1910, College of Notre Dame of Maryland	Md.	Davidson, Herbert Donald B.S. 1949, The George Washington University	D.C.
Darby, Frances W. B.S. 1940, Madison College	Md.	Davidson, James Frederic A.B. 1945, Yale University	Kans.
Darbyshire, Philip Vernon D'Argenio, Raymond Mario B.S. 1950, Georgetown University	D.C.	Davidson, Max Louis	Va.
Dargin, John T. B.S. 1947, Rutgers University	N.Y.	Davidson, Samuel Louis	D.C.
M.B.A. 1950, University of Pennsylvania	D.C.	Davies, Edith Maurice B.S. 1951, The George Washington University	D.C.
Darlin, Edward Joseph B.S. in E.E. 1949, Case Institute of Technology	Va.	Davies, Peter Merrick	D.C.
Darling, Joseph Warren B.S. 1950, Harvard University	Pa.	Davis, Andrew Nathan, Jr.	D.C.
M.B.A. 1934, University of Pennsylvania	Pa.	Davis, Bertha	N.Y.
Darling, Walter Roy	Md.	Davis, Carl Clell B.S. 1942, Oklahoma Agricultural and Mechanical Institute	Okl.
Darmanto, Soedani	Indonesia	Il.B. 1949, University of Oklahoma	W Va.
Darragh, Roberta Leechman	N.J.	Davis, Charles Ernest	D.C.
Darrin, Garney Lewis B.S. in Ed. 1949, Ed.M. 1950, Wayne University	D.C.	Davis, Charles Mitchell, Jr. A.B. 1951, Catholic University of America	D.C.
Darrow, Gerald Donald A.B. 1950, New York University	N.Y.	Davis, Charles Russell	Tex.
Darte, Lorna Coughlin	Pa.	Davis, Charlotte Harr	Md.
Daskam, Harry Mortimer	Va.	Davis, Colonel Webster, Jr.	Fla.
Daspit, Richard Window B.S. 1944, Northwestern University	Ill.	Davis, David Stanley A.B. 1950, The George Washington University	Ohio
Dassoulas, John A.B. 1949, American University	Md.	Davis, Douglas Steward	Md.
Daylow, Donald William	D.C.	Davis, Elsie Virginia	W Va.
Daylow, Gerald Alex A.B. 1951, The George Washington University	Md.	Davis, Elsie Marie B.S. 1941, New Haven State Teachers College	D.C.
Dayton, Mary Anne	D.C.	A.M. in Ed. 1949, The George Washington University	
Dayton, Scott Crittenden B.S. 1944, United States Naval Academy	Calif.	Davis, Eitan Daniel	Va.
Daugherty, Burton Perry, Jr. A.B. 1947, Il.B. 1950, University of Michigan	Mich.	Davis, George, Jr.	D.C.
Daugherty, Floyd Norton B.S. 1950, The George Washington University	Va.	Davis, Glenn Allen	Va.
Daugherty, Robert Stephen	Conn.	Davis, Helen Cloney	La.
Daugherty, Darien Butler B.S. 1945, The George Washington University	D.C.	Davis, Homer Ellis B.S. 1951, Georgetown University	Mo.
D.D.S. 1941, Georgetown University	D.C.	Davis, Horace Miller	D.C.
Dawson, Grover Frederick	Va.	Davis, James Vincent, Jr. B.S. 1949, The George Washington University	Va.
Dast, William Laurence, Jr.	D.C.	Davis, Jennie Levin	Va.
Davenport, John Hobson A.B. in Govt. 1949, The George Washington University	Va.	Davis, John Madison	Va.
Davenport, May M.	Hawaii	Davis, Joseph Howe	Va.
Davenport, Milton Monroe	Va.	Davis, Katharine Norman	Md.
Davenport, Rosemary Jean A.B. 1949, College of New Rochelle	Va.	Davis, Kathryn Joyce	D.C.
Davenport, Thomas Ira B.S. 1944, 1947, M.S. 1951, Pennsylvania State College	Pa.	Davis, Lilla Wimbush	Va.
David, Harry B.S. 1918, University of California	D.C.	Davis, Lloyd Edward	Ohio
A.M. in Govt. 1949, The George Washington University	D.C.	Davis, Lorimer Nathaniel A.B. 1942, Marietta College	Va.
David, Louis Martin	D.C.	Davis, Mary Anne A.B. 1944, University of Chattanooga	D.C.
Davidson, Dorothy Lou	Kans.	Davis, Mary Margaret A.B. 1947, A.M. 1941, The George Washington University	D.C.
Davidson, Dorothy Sylene B.S. 1940, College of the City of New York	D.C.	Davis, Martin Thomas B.S. 1948, Rensselaer Polytechnic Institute	Conn.
	Va.	M.S. 1950, The George Washington University	
		Davis, Melvan Gilmore	Md.
		Davis, Messal Arbutus	Md.
		Davis, Olga B.S. 1949, Columbia University	N.Y.
		Davis, Patricia Louis	N.Y.
		Davis, Paul Dallas B.S. in Ed. 1941, Southeast Missouri State College	Va.
		Davis, Robert Herbert A.B. 1946, M.S. 1949, Indiana University	Conn.

Davis, Robert Lee	D.C.	Deardorff, Wayne Laverne
Davis, Robert Walker	D.C.	Death, Martha Robinson
A.B. 1936, The George Washington University		A.B. 1950, University of Georgia
Davis, Spear John	D.C.	De Avia, Emmett George
B.S. 1955, Pennsylvania State Teachers College, Indiana		Delas, Arthur L.
Davis, Thomas Fred	Va.	Delbosque, Neilson Thomas
B.S. 1955, Pennsylvania State Teachers College, Bloomsburg		DeBosis, Jean Paul
Davis, Thomas M. Lehan, Jr.	D.C.	DeBoeck, Jean B. L.
A.B. 1949, The George Washington University		DeBruin, Wesley
Davis, Vylene Allen	D.C.	B.S. in E.E. 1946, Illinois Institute of Technology
Davis, Vivian Elizabeth	D.C.	DeBusk, Clinton, Eustace
Davis, William Chamberlain	Md.	A.B. 1950, Bridgewater College
A.B. 1950, University of Maryland		DeCastro, Joan Richards
Davison, Mark Leonard	D.C.	Decker, Gerald Yale
Davison, Mark Lewis	N.Y.	Duck, William Meade II
B.S. 1950, The George Washington University		Ducker, Allan Irwin
Devien, Robert McCloud	D.C.	Dexter, Charles Seymour, Jr.
Day II, Alan Park	Va.	Dicker, George Elwood
Dayton, Edward Patrick	D.C.	De Courcy, Bernard Joseph
Dayton, Thomas	Va.	B.S. in Ed. 1944, Ed.M. 1945, Boston University
Dayton, Barbara Carey	Wis.	Dedrickson, Peggy Ann
Dawson, Donald J.	Calif.	Derda, Edward Alwynus
A.B. 1950, Lawrence College		Dennis, Margaret Aurela
Dawson, Mary Elizabeth	D.C.	Dicks, William Thomas
Dawson, Robert Martin		A.B. 1950, Clark University
B.M.A. 1950, Catholic University of America		Dies, John Edwin
Dawson, Shelton Phelps	Calif.	A.B. 1951, The George Washington University
Day, Calvin Woodward	D.C.	Delaney, Charles Mainland
Day, Ernest Herbert	Utah	Delaney, James E.
A.B. 1944, Oberlin College		A.B. 1950, Hunter College
L.I.B. 1950, The George Washington University	Utah	deGard, Victor
Day, Howard MacDonald	Conn.	deGardner, John Gabriel
Day, Ruth Bernard	Ohio	deGardner, Thomas Marie
A.B. 1947, Harvard University		L.I.M. 1947, Leavenworth University
L.L.B. 1949, Georgetown University		Sherman
Day, Thomas Irvin	D.C.	DeGardner, Joseph Anthony
Dayhoff, James Edward	D.C.	B.S. 1940, Loyola College
Dayton, Charles Simon	Md.	M.S. 1950, The George Washington University
A.B. 1945, Rutgers University		deGierke, Vincent J.
B.D. 1949, Colgate-Rochester Divinity School		A.B. 1945, American University
A.M. 1950, Union College and University		A.M. 1945, Catholic University of America
Ph.D. 1950, University of Pittsburgh		DeGroot, Theodore Joseph
De Aguiar, R. John Parker	D.C.	DeGroot, Everett T.
Dean, Ben Franklin	D.C.	B.S. 1940, Massachusetts Institute of Technology
A.B. 1950, The George Washington University		deHaro, Rafael
Dean, Betty Pearl	Kans.	A.B. 1940, South Texas State College
Dean, Edna and Maryann	N.Y.	L.I.B. 1947, Dallas School of Law
A.B. 1950, Catholic University of America		A.M. 1951, Southern Methodist University
Dean, Frank Atwood	Md.	De Hart, Thomas Alan
B.E. 1947, University of Toledo		A.B. 1951, Whittier College
Dean, Frank B.	Tenn.	DeLoe, Lucy Marina
Dean, Hazen Stewart, Jr.	Ill.	DeLoe, Kathryn Evelyn
B.S. 1947, University of Illinois		A.B. 1945, Rutgers University
Dean, Kenneth Marvin	Md.	DeLoe, John Francis
Dean, Miles III	Va.	DeLoe, Vincent Francis
Dean, Robert Murray	Mo.	DeLoe, Stephen
A.B. in Ed. 1944, The George Washington University		DeLoe, Herbert
Dean, Ronald Cass	Md.	DeLoe, Helen Renaud
Dean, Robert Earl, Jr.	N.Y.	DeLoe, Evelyn Yvonne
A.B. 1947, Yale University		DeLoe, Stephen W.
M.B.A. 1950, New York University		A.B. 1950, Western Maryland College
		DeKryser, Henry Leo
		A.B. 1947, A.M. 1947, New Jersey State Teachers College, Morristown
		DeLabat, John Henry

DeLaCruz, Oscar B.S. in Pharm. 1930, University of Costa Rica	Costa Rica	Dent, John F. A.B. 1913, Syracuse University	D.C.
Delahanty, Anne Leona		Denton, Lee Forrest	D.C.
Delaney, Francis M.	D.C.	de Pasquale, Robert Raymond	Pa.
Delaney, John Aloystious A.B. 1930, The George Washington University	Ind. Va.	D'Epiro, Albert Lincoln	Pa.
Delaney, William Johns, Jr.		D'Epiro, Carl Michael	Pa.
Delano, Frank William, Jr.	Va.	DeKemer, Bernard Ray	Ohio
Delany, James Francis	Md.	Dermody, Woodrow Grimes	Va.
de La Rosa, Martin Joseph	D.C.	Derryberry, Nancy H.	Mich.
DeLasko, Donald	D.C.	Dertien, Donald Alfred	Va.
Delosier, Lewis A.B. 1946, The George Washington University	D.C. D.C.	Dery, Paul Henry Ph.B. 1947, Providence College	D.C.
DeLaune, Georges Rene		de Saint Vincent, Jane	Mich.
DeLaur, Maryse Helen B.S. 1930, The George Washington University	France D.C.	Deschane, Bernard Richard	Md.
DeLón, Samuel C. A.B. 1942, M.S. in Ed. 1933, College of the City of New York		Desha, Lewis H.	Va.
DeLorenzo, Concepcion Montenegro	Philippines	Desha, John Rollin H.	Va.
Delmon, Robert Michael B.S. 1946, University of Pittsburgh	D.C. Md.	de Shazo, Anne Sharrett A.B. 1931, Pennsylvania College for Women	D.C.
Delmon, Percival D.B. 1946, University of Pittsburgh	D.C.	de Silva, Sara Thompson A.B. 1924, Wellesley College	D.C.
Delmon, William Ralph, Jr. B.S. 1947, United States Naval Academy	Ga.	A.M. 1927, Radcliffe College	D.C.
del Rio, Lolita A.B. 1942, University of Puerto Rico	Puerto Rico	Deskin, Elaine A.B. 1947, The George Washington University	D.C.
Delmon, John F. B.S. 1941, University of Athens	Greece	Desmond, James Francis	D.C.
Delmon, Peter A. Stanley A.B. 1944, University of Maryland	Md.	Desmond, Patrick Allen	Conn.
Delmon, Peter A.B. 1944, The George Washington University	D.C.	Desposolis, Alexander	Md.
Delmon, Paul Gerald A.B. 1941, A.M. 1942, Rutgers University	N.J.	Desposolis, Penelope	Mass.
Delmon, Daniel William B.S. 1942, The George Washington University	Md.	Dessez, Anna Bright B.S. 1937, Women Teachers College Ed.M. 1949, University of Maryland	Md.
DeMott, George B. A.B. 1941, Wesley	D.C.	Desha, Harold Clarence	D.C.
Demaree, Harry Leon	Pa.	Desmet, Edwin Charles	Md.
Demaree, Thomas Robert	Mass.	Destmann, Frank Carl Lewis B.S. 1945, United States Naval Academy	Ohio
Demaree, Fred Franklin A.B. 1944, Lawrence College	Pa. D.C.	Destweiler, Austin Lee B.S. 1942, United States Naval Academy	D.C. Fla.
Demaree, Sara Belle A.B. 1941, Ed. 1937, Davis and Elkins College	Costa Rica Ky. Ohio	Destweiler, Mark George	Pa.
Demaree, Robert Spencer A.B. 1940, Davis and Elkins College	N.J.	Destweiler, Charles Robert	D.C.
Demaree, Carl A.B. 1948, University of Buffalo	N.Y.	Destweiler, Donald Scott	D.C.
Demaree, David Roberts L.L.B. 1945, The George Washington University	Fla. Va.	Destweiler, Harry Goshub B.S. 1947, Pennsylvania State Teachers College, West Chester	Pa.
Deming, James Harold A.B. 1944, Earlham College	Md.	Deutsch, Joseph A.B. 1947, Brooklyn College	N.Y.
Deming, John George	D.C.	B.S. 1948, Pennsylvania State College	N.J.
Deming, James Armistead	D.C.	Dexheimer, Gerald Raymond B.S. in B.A. 1948, Syracuse University	S.D.
		DeVany, Philip Marshall A.B. 1947, University of Minnesota	Ill.
		Deverman, George	D.C.
		Devon, Charles Jr.	D.C.
		Devine, Edward Peter	D.C.
		Devine, Paul Andrew A.B. 1941, The George Washington University	Pa.
		Devlin, Thomas Eugene, Jr.	D.C.
		Devlin, Walter James	N.J.
		Devlin, Paul James B.S. 1946, United States Naval Academy	D.C.
		A.B. A.M. 1941, Oxford University, England	
		Dew, Alice Perkins	Va.
		A.B. 1937, Mary Washington College	Mass.
		Dew, Richard B. Jr.	Pa.
		Dewees, Margaret	Va.
		Dewey, John Deakon B.S. 1950, Michigan State College	



Dewing, Beverly	Va.	Dilley, Donald LeRoy	
DeWitt, Harry Morton	Va.	Dilley, Jeanette Dorsey	
B.S. 1942, Alabama Polytechnic Institute		Dilley, Luther Lucke LaSalle	
Dewitt, Henry A.	Va.	Dills, Nancy Tucker	
DeWitt, Kurt	Calif.	Dillingham, Jack Hodgen	
A.B. 1941, Reed College		Dillingham, Arthur W.	
DeWitt, William Bradley	Md.	A.B. 1919, University of Arkansas	
A.B. 1948, Howard College		Dillman, Donald D.	
Deyo, Beverly Ann	Va.	Dillon, Caroline Sue Burch	
Diamantopoulos, Speros K.	Greece	Dillon, John Henry	
Diamant, Lila Ruth	D.C.	B.S. 1934, Bates College	
Diamond, Gerald	D.C.	Dillon, Robert S.	
A.B. 1949, New York University		A.B. 1951, Duke University	
Diamond, Lois Wilhelm	D.C.	Dills, Charles Everard	
Diamond, Louis Howard	D.C.	B.S. 1949, North Dakota Agricultural College	
Diana, Silvio Alessio	D.C.	Di Lorenzo, Anthony John	
Diavatis, Nicholas Demos	Puerto Rico	A.B. 1951, Catholic University of America	
Diaz, Carmen Herminia		Di Lorenzo, Theodore John	
A.B. 1950, University of Puerto Rico		A.B. 1950, Trinity College	
Diaz, Lia Jimenez	Costa Rica	DiMaio, Marie Ann	
Dibble, David Eugene	D.C.	DiMaria, Sebastiano	
A.B. 1949, The George Washington University		DiMartino, Horace Robert	
DiCaprio, Jennie Grace	N.J.	Dimitroff, George Zakhariell	
Di Carlo-Cottone, Melchior Joseph	D.C.	B.S. 1927, Boston University	
B.S. 1950, Wagner College		A.M. 1941, Ph.D. 1947, Harvard University	
Dick, Charles Herbert	D.C.	Dimmette, Claude Chester, Jr.	
A.B. 1950, University of Maryland		B.C.E. 1950, The George Washington University	
Dick, Jean Bird	Miss.	Dimmette, Elise Shields	
Dickens, Diana Ruth	D.C.	DiMona, Joseph Michael	
Dickens, Martha Buel	D.C.	A.B. 1947, Duke University	
Dickerson, Eric E.	D.C.	DiMona, Mary Hawthorne	
Dickey, Maxine	Md.	A.B. 1949, University of North Carolina	
Dickinson, Barry Lee	Va.	Dinger, Marilyn Ruth	
Dickinson, Helen Douglas	Va.	Dingman, Robert Walter	
Dickmeyer, John Thomas		A.B. 1950, Houghton College	
A.B. 1949, University of Massachusetts	D.C.	Dion, Marie Berthe	
Dickson, David Alexander		Di Sante, Dorothy Marie	
A.B. 1948, Bowdoin College	Va.	Disharoon, Elmer Woodrow	
Dickson, James Newton, Jr.	Va.	Dixey, Margaret Frances	
Dickson, William Francis	Md.	Dixey, Richard Edward	
Diefenbach, Ann	Md.	B.S. 1948, Ohio State University	
Diehl, Sylvester James	Md.	Dittrich, Florence Judith	
Diehm, Ira Corland		Dixie, William Beach	
B.S. 1949, Franklin and Marshall College	Pa.	Dix, Edgar LaRue	
Diehan, Violetta Rose		Dix, Francis	
B.S. 1957, Drexel Institute of Technology		Dix, Leslie Vernon	
A.M. in Ed. 1942, University of Pennsylvania	D.C.	A.B. 1940, Iowa State Teachers College, Cedar Falls	
Dierden-Crockett, Jeffrey Rosher		Dixon, Ben Franklin III	
A.B. in Govt. 1951, The George Washington University		A.B. 1949, University of North Carolina	
Dietch, Michael Morgan	Conn.	Dixon, Clove Iven, Jr.	
Dietter, Carlisle Lyon	Va.	A.B. 1951, The George Washington University	
Dietter, James George	Kans.	Dixon, Doris J.	
B.S. 1949, Kansas State College		Dixon, Leon Lewis	
Dietter, Rose Ward	Va.	Dixon, Margaret Elizabeth	
Dietrich, Earl Donald	Md.	Dixon, Roland James	
Dietrich, Henry Thornton	Ohio	Dixon, Thomas Wilson	
B.S. 1926, United States Naval Academy		II B. 1942, The George Washington University	
Dietrich, Jack Mitchell	Kans.	Djahangir, Parviz	
Doughan, Anna Maria	D.C.	Dear, Thomas Screven	
Dulay, William Gordon	N.C.	Dobbs, Jerry William	
Dillard, Carolyn P.	Ga.	Dobbs, Theodore Harold	
A.B. 1944, Randolph-Macon Woman's College		A.B. 1950, University of Arkansas	
A.M. 1926, Emory University	Tex.	Dobbs, Bohden John	
Dillehay, Thomas Jefferson, Jr.		B.S. 1949, New York University	
B.B.A. 1927, A.M. 1929, Baylor University			

# Students Registered

453

Dobrowolski, Helen Little A.B. 1943, University of North Carolina	D.C.	Donaldson, Robert Williams	D.C.
Dobson, Barbara Ruth A.B. 1933, Nebraska State Teachers College, Wayne	Va.	Dondershine, Frank Haskin	N.J.
Dobson, Richard Hal B.S. 1949, Kansas State College of Agriculture and Applied Sciences	Kans.	Donelson, Robert P., Jr.	Ala.
Dodd, Robert Clyde Doddridge, Robert Russell B.S. 1940, United States Military Academy	Va. N.Y.	Donelson, Samuel	Tenn.
Dodds, Richard A. A.B. 1949, Gettysburg College	Pa.	Donlon, William Edward B.S. in B.A. 1948, Boston University	Mass.
Dodge, John Edmondson Dodge, John Parker A.B. 1940, Johns Hopkins University	Va. Md.	Donnell, Betty Jane A.B. 1945, The George Washington University	D.C.
Dodge, Ruth Avis A.B. 1925, M.S. 1926, Middlebury College	Va.	Donnelly, John Charles Donnelly, John Lappin Donnelly, Orville Wright A.B. 1943, Swarthmore College	N.Y. Va. Md.
Dodgen, James Edward B.S. in Ch.E. 1943, Georgia Institute of Technology	Md.	Donnelly, Richard C.	D.C.
Dodson, Hugh Howie Dodwell, Sara Irene Doe, Norman Ross A.B. 1948, Marshall College	Va. Maine Mass.	Donohue, John Andrew Donovan, Catherine Angela B.S. 1947, Pennsylvania State Teachers College, California	D.C. D.C. Mass.
Doerfer, Sally Ricebene Doernburg, Helen Johanna Hulda Doersch, Jeanne Marguerite Dosezett, Hilda Lea A.B. 1941, Shepherd College	Va. D.C. Ill. Md.	Donovan, Cornelius John B.S. 1949, Boston College	Va. D.C.
Doherty, Jerome James I.L.B. 1943, Georgetown University	W.Va. N.J.	Donovan, Daniel Russell Donovan, Grace N. A.B. 1936, Barnard College	D.C.
Doherty, John Carroll A.B. 1949, Bowdoin College	Va. D.C.	Donovan, John W. B.S. 1940, Boston College	D.C.
Dolin, William Edward Doll, John Peter Doll, Mary Ann B.S. 1948, University of Wisconsin	N.J. D.C. Calif. Wis.	Donovan, Mary Kay A.B. 1941, Manhattanville College of the Sacred Heart	N.Y.
Dollar, Henry B.C.E. 1937, College of the City of New York	D.C.	Donovan, Robert Joseph B.S. 1940, Boston University	Va.
Dillard, Karen V. A.B. 1949, St. Lawrence University	N.Y.	Donovan, Thomas Joseph B.S. 1940, University of Connecticut	Conn.
Dobson, Ethel Helen B.S. 1941, A.M. 1947, The George Washington University	D.C.	Doshan, Walter Francis Dooley, Joseph Gabriel A.B. 1938, I.L.B. 1941, New York University	Conn. D.C.
Domann, William Arthur B.S. 1948, University of Wisconsin	Wis.	Dooley, Wilbur Jay Doohittle, Olga Jane	Md. Pa.
Domene, Steve Raymond B.S. in Ed. 1949, State Teachers College, Indiana, Pa.	Pa.	Dorfman, Burton Gerald Dorfman, David Dorfman, Milton Sigmond	D.C. D.C. D.C.
Domene, Ralph Ruiz Domine, Grace Magill Dominy, John Richard Donahue, Justin James Donahue, Wade Hampton Donahue, Edward Michael Donahue, Patricia Ann A.B. 1941, Harvard University A.M. 1945, The George Washington University	Md. D.C. D.C. D.C. D.C. Conn. N.Y. Md.	Dorsey, James Douglas B.S. 1949, Villanova College	N.J.
Donaldson, John Eldridge, Jr. A.B. 1949, The George Washington University	Va.	Dorman, William Stephen B.S. 1948, Worcester Institute of Technology	Mass.
		Dorosh, Edward Peter A.B. in Govt. 1951, The George Washington University	N.Y.
		Dorrell, Russell Ellsworth B.S. in E.E. 1934, Carnegie Institute of Technology	D.C.
		Dorsey, Guy Houston Dorsey, John Lawrence B.S. 1951, Georgetown University	D.C. Ky.
		Dorsey, Katherine A. A.B. 1946, American University	Md.
		Dort, Evelyn A. Dort, Wallace Emerson Dosa, Lazlo Dostert, Leon Emile, Jr. Doty, Kathleen Agnes Dougherty, Dale Alma Dougherty, Dorothy Irene Dougherty, Harold Joseph Dougherty, Thomas James A.B. 1951, The George Washington University	Va. Fla. D.C. D.C. Va. Va. Md. N.D.
		Dougherty, Wayne J. A.B. 1941, State University of Iowa	Iowa
		Douglas, Donald Meredith Douglass, John Frederick	Va. D.C.

Douglass, John Robert	Va.	Dragoeth, Kenneth Adair	
Douglass, Paul Manuel, Jr.	Va.	A.B. 1949, Augustana College	
Dove, Lucille Weiss	Md.	B.S. in Med. 1951, University of	
Dover, Edward A.	D.C.	South Dakota	
B.S. 1940, Michigan State Normal		Dreibholz, Joan Ada	
College		Dreifus, Jordan Albert	
A.M. in Govt. 1950, The George		A.B. 1949, Harvard College	
Washington University		Dreka, George Burrell	
Dow, Helen May	D.C.	Dressel, Robert James	
Dow, Mary	Mass.	A.B. 1950, The George Washington	
Dow, Thomas William	Md.	University	
B.S. 1928, M.S. 1941, Purdue		Dressendorfer, David Eugene	
University		B.S. 1937, United States Naval	
Dowd, George Gordon	Wash.	Academy	
A.B. 1941, Western Washington		M.S. 1949, University of Minnesota	
College of Education		Drew, Roger Joseph	
Dowling, Richard Emmett	N.Y.	B.S. 1948, University of Wisconsin	
Downey, Alma Gayle	Nebr.	Dreyfous, John Joseph	
A.B. 1951, The George Washington		Druman, Krikor Benjamin	
University		Drummer, Miriam Weinberg	
Downey, Carroll Edward	D.C.	Drummer, Saul E.	
B.S. 1950, Columbia University		B.S. 1940, The George Washington	
M.S. 1951, Iowa State University		University	
Downing, George Alan	Va.	Driscoll, Joseph Patrick	
Downing, Paul Kenneth	Pa.	A.B. 1941, LL.B. 1943, Harvard	
Dowers, Edward Alley	D.C.	University	
A.B. 1950, Harvard University		Driscoll, Michael Joseph	
Downs, Jeanne Lou	D.C.	Driscoll, Robert Edward	
Downs, Robert Jack	Okla.	Driver, William Joseph	
B.S. 1950, M.S. 1951, The George		B.B.A. 1941, Niagara University	
Washington University		Droege, Robert C.	
Doyle, Ann Catherine	Colo.	B.S. 1949, Purdue University	
A.B. 1950, The George Washington		Droke, John Conley	
University		Droll, Henry Andrew	
Doyle, Ben. Moyses, Jr.	R.I.	Dronex, Paul Vincent	
Doyle, Ellamae E.	Pa.	Droptin, Herbert A.	
Doyle, James Henry, Jr.	Calif.	B.E.E. 1950, Cooper Union	
B.S. 1946, United States Naval		Druker, Richard Patrick	
Academy		Drummond, Douglas Jay	
Doyle, John Benedict	Calif.	B.S. 1952, University of Maryland	
A.B. 1948, University of California		Drummond, Frank Brown	
at Los Angeles		Drummond, Thomas Darrell	
Doyle, Shirley	N.Y.	Druvy, Joseph Dennis	
Doyle, Vincent Joseph	D.C.	Druvy, Paul Olvin	
Doyle, William Andrew	Minn.	Druvy, Peter Arthur	
B.S. in F.S. 1951, Georgetown		Druze, Katherine	
University		A.B. in Ed. 1916, Iowa Wesleyan	
Dozier, Benjamin Leroy	Md.	University	
Drueger, Edith Prindle	D.C.	A.M. in Ed. 1926, Columbia University	
B.S. in Ed. 1916, Wilson Teachers		Dubetter, Dorothy Ennis	
College		A.B. 1941, Brooklyn College	
A.M. in Ed. 1948, The George		Dubin, Harold	
Washington University		A.B. 1951, Boston University	
Dragoo, Roland Paul	D.C.	Dubitsky, Rose A.	
B.S. 1941, University of Idaho		Duchene, Shirley Ann	
B.S. 1949, The George Washington		Duckworth, Alan Clark	
University		B.S. 1951, The George Washington	
Draina, Rita M.	Md.	University	
Draine, R. Earl P.	Va.	Duda, Paul Joe	
Drake, Dorothy Gerorgette	Md.	Dudley, Barbara Anne	
Drake, Mary Lou	Iowa	Dudley, Dorothy Hood	
A.B. 1934, State University of Iowa		B.S. in H.E. 1916, The George	
Drake, Norman Martin	Md.	Washington University	
Drake, Richard Curtis	Mass.	Dudley, George Hayden	
Drake, Sherwood Albert	D.C.	DuBois, Charles Elizabeth	
Drake, Spencer Ralph	Minn.	Dudley, Jasper Donnell	
Draper, Elizabeth Kohl	D.C.	DuBois, Robert Manoykian	
A.B. in Ed. 1924, A.M. in Ed. 1911,		DuBois, Robert Hamilton	
The George Washington University		Duff, Marie C.	
Dredge, Talbot William	D.C.	A.B. 1915, The George Washington	
B.S. in P.E. 1951, The George		University	
Washington University		Duffy, Anthony Vincent	
		Duffy, Charles Creighton	
		B.S. 1949, University of Nevada	



# Students Registered

455

Duffy, Edward F. A.B. 1951, The George Washington University	N.J. D.C.	Dupuy, Lulu Marie A.B. 1950, Randolph-Macon Woman's College	Va.
Dunar, Thomas Joseph M.D. 1946, The George Washington University	Md.	Durant, James Calvert A.M. 1951, Columbia University	Fla.
Duggan, Robert Charles B.S. 1950, University of Scranton	D.C.	Durant, William Billard, Jr. A.B. 1950, Harvard University	Mass.
Dugan, Kenneth Dale A.B. 1942, Sweet Briar College	Va.	Durham, Rebecca Marie A.B. 1948, University of Michigan	Mich.
Duke, Henry John A.B. 1942, Sweet Briar College	Va.	Durkin, Patrick Joseph B.S. 1948, St. Ambrose College	Ill.
Duke, Marcus Elizabeth A.B. 1942, Sweet Briar College	D.C.	Durley, William Newkirk B.S. 1942, University of California	Calif.
Duke, Thomas Maurice A.B. 1942, Sweet Briar College	Va.	Durrough, Evelyn Grace A.B. in Ed. 1943, The George Washington University	D.C.
Duke, William Tavior A.B. 1942, Sweet Briar College	Va.	Durling, Mary Louise Durling, Gerald Eugene	Md. D.C.
Duke, Joseph Augustine A.B. 1942, The George Washington University	Mass.	Durrah, Helen Bernadine A.B. 1951, University of Washington	Wash.
Dum, Frank Ryan Dum, Rita Ann	Va.	Durrie, Richard Doyle Dusenbury, Richard Green	Ohio S.C.
Dunbar, Richard Clarence Dunaway, Edward George	W.Va. Pa.	A.B. 1946, University of South Carolina	
Dunbar, John Paul A.B. in Govt. 1950, The George Washington University	D.C. D.C.	LL.B. 1951, The George Washington University	
Dunbar, William Beal Dunbar, Thomas Lloyd	Fla. Ohio	Dusk, Gerald Lee A.B. 1949, Temple University	Pa.
Dunbar, Carolyn Ann Dunbar, Louis George	Pa. D.C.	Durbin, Charles Lockwood A.B. 1941, The George Washington University	Va.
Dunbar, Donald Richard LL.B. 1951, Ohio State University	D.C. D.C.	Dutton, Frances M. Dutton, Jean Marcel	D.C. France
Dunbar, Forrest Banks Dunbar, Harold Owen	Fla. Ga.	Dutton, Nancy Ann A.B. 1946, Randolph-Macon Woman's College	Md.
Dunbar, John Edward Dunbar, C. Louise	D.C. D.C.	Duval, Patrick Jerome Duval, Allen Joseph	Calif. Md.
Dunbar, Berneice Langdon B.S. in Ed. 1950, Wilmington College	Ohio	B.S. 1947, The George Washington University	
Dunbar, William George Dunbar, Robert John	Va. Ark.	Duval, Mabel Belle A.B. 1944, The George Washington University	Va.
Dunbar, William Barton A.B. 1948, B.B.A. 1947, University of Texas	Tex.	Dwight, Calvin George Dwyer, Helen Margaret	Idaho Mass.
Dunbar, Carol Patricia A.B. 1948, University of Nebraska	Va.	Dwyer, James Francis Dwyer, Jean Ferguson	N.Y. Mass.
Dunbar, Donald M. Donald, Jr. B.S. 1941, University of North Carolina	Nebr. N.C.	Dwyer, Louis Eugene B.S. 1948, American University	Md.
Dunbar, Kenneth Wright Dunbar, Kenneth Henry	D.C. D.C.	Dwyer, Nancy I. Dwyer, Vincent William	D.C. Md.
Dunbar, William Francis A.B. 1941, Sweet Briar College	Md. N.Y.	Dye, Mary Charlotte Dye, Philip Gailrey	Va. Calif.
Dunbar, Anne Langley A.M. 1944, Sweet Briar College		Dyer, Harold I. A.B. 1948, Washington State College	Wash.
Dunbar, Gordon M. A.B. in Ed. 1955, New York State Teachers College, Cortland	Va.	Dyer, Robert Francis A.B. 1941, University of Michigan	D.C.
Dunbar, James Elbert Dunbar, William C. Butler	D.C. D.C.	Dykes, John Knize Dyson, Constance Oslane	Ill. D.C.
Dunbar, John Adams, Jr. A.B. 1940, The George Washington University	D.C. Md.	Dyson, Delmar A. Dyson, Thomas Gilmore	Calif. Mo.
Dunbar, Robert Giles A.B. 1940, The George Washington University	RI. Mass.	B.S. in M.E. 1943, University of Missouri	
Dunbar, Frank Joseph A.B. 1940, The George Washington University	La.	Dysland, Audrey Bernadine Dysland, Robert Carroll	Md. Md.
Dunbar, Harold James A.B. 1940, The George Washington University		Dysland, Raymond Joseph A.B. 1943, University of Buffalo	Md.
		E	
		Egan, Thomas Lippett, Jr. Eagle, Helen Doris	Md. W.Va.

Eazleton, Sterling John	Md.	Edson, James Frederick	
Eaugh, Douglas Ray	Pa.	Edwall, Margary Ann	
A.B. 1949, Lebanon Valley College		Edwall, Warren Emerson	
Earle, Lewis Samuel	Fla.	A.B. in Govt. 1950, The George Washington University	
Earle, Richard Charles	Ill.	Edwards, Alletta Prentiss	
Early, Douglas McCord	D.C.	Edwards, Charles Everett	
Early, William Norman	D.C.	Edwards, Fred I.	
Earnest, Elmer Dean	Pa.	Edwards, Henry William	
Easley, Giles Monroe	Tex.	B.E. 1937, Montana State College	
East, Ann M.	Pa.	Edwards, Hilda Marie	
East, William Francis	Va.	B.S. 1950, Longwood College	
A.B. 1949, Western Maryland College		Edwards, Jamie Louise	
Eastham, Walter Harbin	Va.	Edwards, Leigh Winter	
Eastman, Robert Emerson	Calif.	Edwards, Leon Christopher	
B.S. 1946, United States Naval Academy		A.B. in Ed. 1938, Newberry College	
Eastman, Samuel Thomas	Va.	Edwards, Marion William	
Easton, Carl Wilbur	Va.	A.B. 1950, The George Washington University	
Eastridge, Bent H., Jr.	Va.	Edwards, Peggy LaFaye	
Eastwood, Robert Dale	Okla.	Edwards, Rosaline Mary	
Eaton, John David	Mass.	B.S. in Ed. 1934, A.M. 1935, Fordham University	
B.S. 1944, United States Naval Academy		Edwards, Rostand Harbit	
Eaton, Nancy Lee	Md.	Edwards, Roy Gene	
Eaton, Robert Purdey	Va.	Edwards, Sam Allen	
Eboerts, Mary M.	N.Y.	A.B. 1940, University of Southern California	
Ebal, Joyce Marie	D.C.	Edwin, Gabriel	
Eberly, James Rowland	D.C.	B.S. 1949, M.S. 1951, The George Washington University	
Eberly, Joyce Fileen	Neb.	Efron, Reuben	
Ebert, Eugene	D.C.	Efteland, Robert Grant	
Ebert, Henriette Wirt	Va.	A.B. 1941, Stanford University	
A.B. 1949, The George Washington University		Egan, Charles Alfred	
Eberwein, Muriel Eva	Mo.	Egan, George William	
Eby, Amy Bowen	Md.	Exbert, John Paul	
A.B. 1949, Shepherd College		Exeler, Lois Marion	
Eby, Mary Zislet	Pa.	Exerton, Robert Bradley	
Eckelton, Harold Norris, Jr.	Md.	B.S. 1950, University of North Carolina	
Eckman, John	Pa.	Ehrlich, Helen Gertrude	
Eckman, Maguel de	D.C.	Ehrmentraut, Willfred Russell	
Eck, John Paul	D.C.	B.S. 1948, University of Maryland	
Eckert, Ernest Elroy	Md.	Ehrke, Pierre D.	
B.S. 1949, Moravian College		Eickemeyer, Robert Henry	
Eckert, Robert William	D.C.	Eid, Paula Marilyn	
Eckert, Virginia Jean	Greece	Eigenbrode, Charles Robert	
Economides, Alexandra Mattheos	D.C.	A.B. 1950, Lebanon Valley College	
Economou, Fotios	D.C.	Eilenberg, David	
Economou, Zeno	D.C.	A.B. 1949, The George Washington University	
Economou, Cassie L.	Pa.	Eimer, Margaret Hermann	
A.B. 1949, Moravian College for Women		Eimheber, Albert	
Eddy, Graham Samuel	Va.	A.B. 1948, M.S. 1950, The George Washington University	
Eeden, Francis Clifford	Va.	Einstein, Dorothy Virginia	
Eeden, Sister Mary Joseph	Pa.	Einstein, Paul Myer	
Eefelman, Leon and	N.Y.	B.S. 1950, Florida State University	
Eefelschtein, Barbara Harriett	D.C.	Eisele, Edna Mae Louise	
Eddelheim, Theodore Edward	D.C.	A.B. 1947, Trinity College	
Eddison, Jerry	Ohio	Eisen, Howard	
A.B. 1949, University of Cincinnati		B.S. 1950, University of Illinois	
Edelstein, Edward Bernard	N.Y.	Eisenberg, Bernard Carl	
Edenbaum, Robert Lawrence	N.Y.	A.B. 1951, The George Washington University	
Edgar, Teresa Maria	D.C.	Eisenberg, Warren William	
Edgerton, John Durand	D.C.	Eisenburger, Dorothy Evelyn	
L.L.B. 1947, The George Washington University		Estier, Gilbert Martin	
Edinger, Camellita	D.C.	Estier, Jerome	
Edlavitch, Irwin Paul	D.C.	Ekenstahl, Lillian Mabel	
Edlavitch, Sandra	Va.	Ekman, Donald Quentin	
Edler, Karl Frederick	Va.	Ekman, Florence Ethel	
Edlow, Eleanor Louise	Va.	Elam, Barbara Jean	
Edmondson, Ruby Mire	Va.		
Edmonds, John Venable	W.Va.		
A.B. 1949, Centre College			

# Students Registered

457

Eder, Helen Koch	D.C.	Edward, Elizabeth Anne	Md.
Eder, Vernon David	D.C.	A.B. 1949, Trinity College	
Edgar, John Matthews, Jr.	Va.	Edwell, Donald B.	Vt.
Edison, Jack	Ill.	Edwyn, Mary Ball	Va.
B.S. 1937, College of the City of New York		Ely, Adair Anderson	Va.
A.M. 1940, The George Washington University		A.B. 1931, University of Virginia	Ohio
Elli, Thomas Lamb	Md.	Ely, Frances Helena	
A.B. 1941, Harvard University		B.S. 1930, Western Reserve University	
Elli, Evelyn	Ill.	Ely, Marvin Thomas	W Va.
Elli, Clifford	Colo.	Ely, Samuel Jones, Jr.	Va.
Elli, Nyllee Jane	W Va.	Emanuele, Peter Valentino	D.C.
Emerson, Marguerite June	D.C.	Embrey, Charles Scott	Va.
Emm, Hester	D.C.	Embrey, Thomas Carl	D.C.
Emm, Mondia M.	Kan.	Embrey, William Randolph	Md.
A.B. 1944, Manhattanville College		Embs, Eugene Emmett	D.C.
B.S. 1941, Western Teachers College		Embs, Wallace M. Kenzie	Va.
Emm, Robert Washington	Md.	Emerson, Daniel Everett	
Emm, Richard Leif	Ariz.	B.E.E. 1949, Cornell University	
Emm, Jennifer	Md.	Emerson, Harold Leonard	Va.
Emm, Mary Jane	N.H.	Emerson, Margaret Wagner	Va.
Emm, Frank Carson	Pa.	Emery, Clarence Eugene, Jr.	Md.
A.B. 1940, The George Washington University		B.S. 1941, University of Maine	
Emm, Leta	Va.	Emme, Arthur Gell	Va.
Emm, Muriel Law	D.C.	Emma, Paschal Joseph	N.Y.
Emm, Robert Arthur	D.C.	Emmett, Henry Theodore	Ill.
Emm, Stephen Lyons	D.C.	A.B. 1949, Augustana College	
Emm, Calvin H. Jr.	Md.	Emmett, Thomas James	Mass.
Emm, Calvin, Walter	Okla.	Emmons, Baird Ellis	Calif.
B.S. 1950, The George Washington University		A.B. 1941, University of Nebraska	
Emm, Caroline Brockman	D.C.	Emmons, Oliver Everett	D.C.
Emm, Mary Washington College	Va.	Emmons, Paul M.	N.Y.
Emm, Francis Ann	Ark.	Emory, George Meade	Wash.
Emm, Mary Washington College	Va.	Emory, Orville James, Jr.	D.C.
Emm, Henry Herbert	Md.	Empie, Katharine R.	D.C.
Emm, Homer R. Joseph, Jr.	N.Y.	Empie, Arthur Philip	Md.
Emm, James Garfield, Jr.	D.C.	B.S. 1941, University of Wisconsin	
Emm, John Houston	D.C.	Endres, Richard John	Wash.
B.S. 1940, Simmons College		A.B. 1930, University of Washington	
Emm, John, Cecil	Ga.	Engerin, Lathan M.	D.C.
A.B. 1940, Yale University	N.Y.	Enver, Grace	Calif.
Emm, Mary Ann	Pa.	Enes, Richard Harris	Va.
Emm, Mary Ann	Md.	Engel, Edward	D.C.
Emm, Mary Ann	W.Va.	Engel, John Michael, Jr.	N.Y.
Emm, Mary Ann	Tenn.	Engel, Mary Louise	D.C.
Emm, Mary Ann	D.C.	Engel, Miriam	D.C.
Emm, Mary Ann		Engelman, Rose Charlotte	D.C.
Emm, Mary Ann		A.B. 1930, A.M. 1941, University of Rochester	
Emm, Mary Ann		Ph.D. 1947, Cornell University	
Emm, Mary Ann		Engelsberg, Corinne Doris	N.J.
Emm, Mary Ann		A.B. 1940, Pennsylvania State College	
Emm, Mary Ann		Engelstein, Lena Schtager	N.Y.
Emm, Mary Ann		A.B. 1931, B.S. in L.S. 1937, Syracuse University	
Emm, Mary Ann		England, James William	N.I.
Emm, Mary Ann		England, Jesse Lincoln	W.Va.
Emm, Mary Ann		Engle, Donald Ray	Pa.
Emm, Mary Ann		Engle, Edison Groves, Jr.	Va.
Emm, Mary Ann		B.S. 1941, Pennsylvania State Teachers College, Millersville	
Emm, Mary Ann		Englert, Helen Wagon	Va.
Emm, Mary Ann		Englert, Roy Theodore	Va.
Emm, Mary Ann		A.B. 1941, Vanderbilt University	
Emm, Mary Ann		LL.B. 1941, Columbia University	
Emm, Mary Ann		English, Edward House	Va.
Emm, Mary Ann		Enholm, Eric Randolph	Va.
Emm, Mary Ann		Enkeieff, Oleg Constantine	Md.
Emm, Mary Ann		B.S. 1941, California Institute of Technology	
Emm, Mary Ann		Enlow, Lyle Edwin	Pa.
Emm, Mary Ann		Ennis, Harry Hatcher	Utah
Emm, Mary Ann		A.B. 1944, Brigham Young University	



Ennis, William Buckley	Md.	Espenshade, Marlin Alwine
B.S. 1941, Catholic University of America		B.S. 1941, Lebanon Valley College
Enriquez, Jean Gordon	Va.	M.S. 1941, Purdue University
B.S. in H.E. 1949, The George Washington University		Espey, Beatrice Mae Graham
Entler, David Harold	D.C.	A.B. 1928, University of Nebraska
A.B. 1949, University of Maryland		Espile, Felipe Angelus
Enwright, James Charles	D.C.	Essal, John Joseph
Enyard, Frederick Moffet	Va.	Esser, Frank Albert
Enyard, Mary Ellen	D.C.	Esser, William Bernard
Enzor, Thomas Henry, Jr.	Va.	Essex, Albert Leon
A.B. 1930, The George Washington University		Esrick, Abraham Joseph
Epes, Horace Hardaway	N.Y.	L.L.B. 1940, Rutgers University
Epstein, Bart Jacob	Md.	Estanich, Joseph Anthony
B.S. 1948, Cornell University		A.B. in Govt. 1950, The George Washington University
Epstein, Burton Seymour	D.C.	Esterly, Robert Elden
Epstein, Jerome Harold	D.C.	A.B. 1940, Mansfield College
A.B. 1947, New York University		Estes, Armand William
A.M. 1949, The George Washington University		Estes, Elder Seneca
Epstein, Lionel Charles	D.C.	B.S. in B.A. 1947, Rutgers University
A.B. 1947, New York University		Estes, M. Aldena
L.L.B. 1950, Harvard University		Estes, Milnes Lee
Epstein, Marion	Mass.	Estes, Ruth Yvonne
A.B. 1949, The George Washington University		Ethington, Paul James
Epstein, Melvin Douglas	Md.	B.S. 1949, Iowa State College
Epstein, Sarah Gamble	D.C.	Ettenger, Robert Lee
A.B. 1948, Oberlin College		B.S. 1948, University of North Carolina
Eprine, James William	S.C.	Ettinger, Albert Churchill
Erb, Charlotte M.	Wis.	B.S.S. 1949, College of the City of New York
A.B. 1949, Ma-Murray College for Women		Ettleman, Walter Irvin, Jr.
Erb, Nancy Elise	Pa.	B.S. 1942, University of New Mexico
B.S. 1941, Pennsylvania State College		Euster, Lee
Erbaugh, John Kanta	Pa.	Evans, Anna Mary
M.D. 1948, University of Michigan		Evans, Beatrice
Erdman, Gertrude I.	Va.	Evans, Carlotta Kriete
B.S. 1949, Mary Washington College		Evans, Clarence William
Erdmann, Charles Edward	D.C.	B.S. 1922, University of Delaware
Fant, Alvin M.	Va.	Evans, David Robert
Farrington, Roger Owen	Minn.	Evans, Donald Eugene
Farrington, Ruth Mae	Minn.	Evans, Eliza Blanche
Farrington, John Williamson	Va.	Evans, Eleanor Lyle
B.S.Ch.E. 1942, University of Illinois		Evans, Elizabeth Hutchinson
Farrick, Florence Hancock	D.C.	Evans, James Gilbert, Jr.
Farr, Martin	D.C.	A.B. 1947, University of Virginia
A.B. 1948, Temple University		L.L.B. 1950, University of Virginia
B.S. in I.S. 1948, Drexel Institute of Technology		Evans, James Paul
Farr, David Pivon	D.C.	Evans, Jennie M.
A.B. 1947, Harvard University		Evans, John Jacob
Farr, Clyde Vernon, Jr.	Ill.	A.B. 1917, Cornell University
A.B. 1948, North Central College		Evans, Joseph George
Farr, Robert	D.C.	Evans, Mary Elizabeth
Farrington, Claudia Fines	Cuba	A.B. 1941, Mary Baldwin College
L.H. 1947, Havana University		A.B. 1941, University of Washington
Farr, Albert Frederick	D.C.	Evans, Mary Louise
A.B. 1941, A.M. 1950, The George Washington University		A.B. 1948, University of Washington
Farr, Rufus Fong	D.C.	Evans, Mary Rose
A.B. 1941, Harvard University		A.B. 1949, Davis and Elkins College
Farr, Frederick Edward	N.Y.	Evans, Patricia Shreve
A.B. 1949, University of Pittsburgh		Evans, Robert M.
Farr, Norman	N.Y.	Evans, Rowland, Jr.
Farr, Walter Henry, Jr.	D.C.	Evans, Roy Lester
Farrington, Louis Manuel	D.C.	B.S. 1949, Indiana Central College
Farr, Javier	D.C.	Evans, Walker Williams
D.L. 1941, Chile University		B.S. 1949, Presbyterian College
Farrington, Mary Jeanne	Md.	Evans, William Benjamin, Jr.
		B.S. 1949, University of Maryland
		A.M. 1949, Columbia University
		Evans, William George
		Evans, William McCray
		L.L.B. 1948, Harvard University

## 459

Students Registered			459
Eve, Lincoln			
BS, in B.A. 1948, M.B.A. 1949,	Colo.	Faith, Edward Stuart	D.C.
University of Denver		Faith, Francis Reussel	Va.
Evening, Roldal Norman		Falardeau, Thelma Elaine	D.C.
B.A.E. 1941, University of Minnesota	Va.	Falk, Erling Hultgreen	D.C.
Everett, Gerald Waddell		Falkenburg, Harry James	N.J.
AB 1951, The George Washington	Md.	Faller, George Cornelius, Jr.	Ill.
University		Fallon, Edward Joseph	N.Y.
Everard, Martin Edward		AB 1950, University of Rochester	
Everman, Clarence Edward, Jr.	Va.	Fallon, Eugene Brady	N.Y.
BS 1948, Western Reserve University	Ohio	BS 1944, United States Naval	
Evers, Anne		Academy	
BS 1948, New York University	D.C.	Fallon, John Edward	Mass.
Evers, Herbert Joseph		AB 1951, Clark University	
B.M.E. 1947, Cooper Union	D.C.	Falla, Cyrus Thompson	Fla.
AB 1928, Ohio University	Ohio	Famous, Priscilla	Md.
AM 1936, Ohio State University		Fancher, Ruth N.	Pa.
Ewasi, Canner K.		Farah, Cesar	D.C.
AB, Donald L.		Farah, Winfred Todd	D.C.
AB 1951, University of Pittsburgh	Mich.	Fargo, Carol Darene	Iowa
Ewin, William Joseph	Pa.	Farley, Thomas Albert	D.C.
BS 1950, University of Maryland	D.C.	Farmer, Dorothy Louise	Ky.
Ewing, John Alexander	D.C.	Farmer, Garland Roscoe, Jr.	Tex.
Ewing, Merv Kennedy		AB 1944, University of Texas	
Eyoun, Frances Marie	D.C.	Farmer, Robert Lee	N.C.
Eyoun, William John	Va.	BS 1950, University of Miami	
	Va.	Farmer, Robert Singleton	Va.
	Va.	Farmer, William Fulton, Jr.	D.C.
		Farnes, Wallace, Darwin	D.C.
		AB 1951, Idaho State College	
Faber, Raymond Morris	D.C.	Faro, Marian Ruth	Md.
B.B.A. 1945, College of the City of	N.Y.	Farquhar, Gordon Nesbitt	Md.
New York		AB 1948, Yale University	
Fabian, Alfred Edward	Ga.	Farr, Boyd Joseph	
B.B.A. 1949, University of Georgia		Farr, John Whelan, Jr.	Md.
Fabrizio, Francis Vito	D.C.	Farrell, Albert Bernard	Pa.
BS 1950, University of Maryland		AB 1947, University of Maryland	D.C.
Facinto, Francis Joseph		Farrrell, Eileen Frances	Ill.
BS 1946, West Virginia Institute of	W Va.	Farrrell, Katherine Louise	D.C.
Technology		Farrrell, Kathleen Marie	Va.
Fackler, Hare, Shepardson	D.C.	Farrrell, Lydia Ruth	Ala.
Fackler, Walter David	D.C.	Farrrell, Larry Estes	Ark.
AB 1950, The George Washington		Farrow, Richard Paul	Va.
University		AB 1950, Catholic University of	
Fadeley, Jane McNeal	D.C.	America	
AB 1951, The George Washington		Faubion, Urban Hart	Tex.
University		BS in F.E. 1948, University of Texas	
Faber, Hassan	D.C.	Faulkner, John Reynolds	Md.
AM 1948, University of California		Faulkner, Rafford Lockhead	Va.
Fahner, James Bowman	Va.	BS 1933, Massachusetts Institute of	
Fahner, Jane Lee	Va.	Technology	
Fahner, Jean Stoner	D.C.	Faust, Wilda Freebern	D.C.
Fahy, George Herbert	D.C.	AB 1939, Iowa State Teachers College	
Fahy, Jane Edward	Ohio	AM 1943, University of Florida	
Fa, Joseph Leon	Md.	Favarella, Samuel Peter	Pa.
Fa, Joseph Stetzman	Va.	Favre, Pierre André	D.C.
AB 1947, Midspan College		Fawal, Aziz Aziz	D.C.
Fair, Merv, Christian		Fawcett, James Franklin	Pa.
Fairbanks, Bertha Amy	Va.	AB 1952, Lebanon Valley College	
Blair, Helen, R	Va.	Fax, Glen Shirley, Jr.	Va.
B.Litt. 1929, A.M. 1935, Columbia	Ky.	Fax, Elizabeth Therese	Pa.
University		Fax, John Francis	Md.
Farrington, John Cyrus	D.C.	Fay, Leiford Gilbert	N.J.
Farrington, John David		Fay, Richard Joseph	
Farrington, Vida L	Va.	AB 1951, College of the Holy Cross	
BS, Ed 1951, Temple University	Fla.	Feaster, Esten Kosant	W Va.
Farron, Marian Virginia	Va.	AB 1945, Fairmont State College	
AB 1948, Washington		AM 1940, West Virginia University	
Farron, Edmund Weston		BS 1950, The George Washington	
W. Washington University		University	
Farr, Lane Collier	D.C.	Febies, Albert William, Jr.	Va.
AB 1940, The George		Fechter, George Leonard	D.C.
Washington University			

Feder, Joan Ruth	D.C.	Ferland, David Joseph	Mo.
Federico, Joan Foye	D.C.	Fernández, Efraín Rubén	D.C.
Federico, Patricia Morris	D.C.	Fernbach, Donald Joseph	N.Y.
Federle, Jesse Alan	Nebr.	A.B. 1948, Tusculum College	Pa.
A.B. 1948, The George Washington University		Ferraccio, Francisco Paolo	Me.
Fedor, Helen Joyce	Va.	B.S. 1949, Allegheny College	Ga.
Feehan, Eugene Francis	D.C.	Ferraro, Samuel John	N.J.
A.B. 1951, Catholic University of America		Ferrell, Robert Bennett	Me.
Feeney, Edward Jude	Maine	Ferren, John Edward	Puerto Rico
A.B. 1951, St. Anselm's College		B.S. 1951, Rutgers University	
Feick, John Charles, Jr.	Ohio	Ferrenz, Robert Tirrell	
B.S. 1941, M.S. 1947, United States Naval Academy		Ferrer-Babilonia, Felipe	
Feild, Frances Elizabeth	Va.	B.S.A. 1946, University of Puerto Rico	D.C.
A.B. 1950, Texas Christian University		Ferris, Irma Lee	Va.
Feild, Sam Cleage, Jr.	Va.	Ferris, Lula Frances	Pa.
Feingold, Leah Levine	D.C.	Ferris, Norman Bernard	D.C.
Feissner, John Edward, Jr.	D.C.	Ferro, Anthony Philip	D.C.
Feissner, Karl G.	Va.	Fersinger, John Petrus	Va.
Fekete, Andrew Maurice		Fessak, Natalia C.	D.C.
A.B. 1951, The George Washington University		Fetherolf, Mitchell William	D.C.
Fels, George Henry	Pa.	B.S. 1954, Muhlenberg College	D.C.
Felder, Stanford	D.C.	Fetisoff, Valentine Alexander	W.Va.
Feldman, Edmund Henry	D.C.	Feyrer, Nancy	
Feldman, Martha	Fla.	Fickey, Charles Joseph	Va.
B.S. 1947, University of Georgia		A.B. 1951, West Virginia University	
Felton, James August	Va.	Fiedler, Gottfried Ottomar	D.C.
Feller, Ralph Miles	N.Y.	A.B. 1936, A.M. 1939, Brown University	
Fellows, Keith Harrison	Va.	Ed M. 1941, Harvard University	
Felt, Thomas Edward	Md.	Fiekowsky, Donald Kenneth	Conn.
Feltman, David Brown	Va.	A.B. 1951, Wayne University	
Feltman, Mary Frances	Va.	Field, George Brooks	Va.
Feltman, Robert Ferree	D.C.	B.S. 1951, Massachusetts Institute of Technology	Wash.
A.B. 1949, The George Washington University		Field, Gerald Alfred	
Felton, Barbara Belle	D.C.	Field, Henry Callender, Jr.	
A.B. 1944, Goucher College		B.S. 1941, United States Naval Academy	
Felton, Walter Joseph	Mass.	M.S. 1946, Massachusetts Institute of Technology	N.Y.
Fenchell, Melvin Medford	N.Y.	Field, Milton Mortimer	
A.B. 1943, Dartmouth College		B.S. in E.E. 1948, University of Nebraska	D.C.
Fenley, Albert George	Calif.	Fielder, Margaret Ruth	D.C.
Fenlon, Raymond Henry	Md.	Fields, I. Oletha	D.C.
B.S. in P.E. 1949, The George Washington University		Fike, Edward Lake	D.C.
Fennell, Sue Sherman	Md.	A.B. 1941, Duke University	
Fennelly, William A.	D.C.	Filia, Concerta Marie	
Fennessy, Mark Paul	Va.	Filipowicz, Casimir Anthony	
Fenster, Harvey Saul	D.C.	Filiyan, Monnie Maxine	
Fenster, Phyllis Rose	D.C.	Filanger, Ruth Isabel	
Fenton, Ann Masemer	D.C.	Finch, James Derwood	
Fenton, Barbara Walker	Va.	Finch, John Lowry	
Fenton, Elizabeth Faulkner	D.C.	Finch, Joyce Charline	
Fenton, Evelyn Roberta	D.C.	Finch, Lowell Edwin	
Fenton, Patricia Joanne	D.C.	Finch, Walter Gilchrist	
Fentress, Grayson Goldzier	D.C.	B.E. 1940, M.E. 1950, Johns Hopkins University	
A.B. 1951, University of Virginia		LL.B. 1948, M.D.A. 1949, Temple University	
Fera, Joseph Richard	Va.	LL.M. 1949, The George Washington University	
Ferazzi, Gabriel Ernest	D.C.		
B.S. in Ed. 1946, Ed.M. 1949, Boston University		Fine, Barbara Ann	
Ferero, Edward George	N.J.	Fine, Edward Earl, Jr.	
Ferguson, Donald Edmond, Jr.	Mich.	B.S. 1948, American University	
Ferguson, James Hilburn	Ala.	Fine, Martin Brian	
Ferguson, Joyce Talbot	Calif.	A.B. 1951, University of Connecticut	
Ferguson, Marion	D.C.	Fine, Martin Meyer	
Ferguson, Patricia Lou	Md.	B.S. 1948, Bucknell University	
A.B. 1950, Mary Washington College		Fine, Sidney Albert	
Ferguson, William Holmes	Okla.	B.S. 1946, M.S. 1941, College of the City of New York	
B.S. 1949, University of Tulsa		Finegan, John Edmond	
Fergusson, Eugene Stuart	N.Y.		
B.S. 1949, Columbia University			



# Students Registered

461

Finegan, Patricia Eileen A.B. 1947, Columbia University	D.C.	Fish, Jerome Sullivan A.B. 1951, Berea College	Ky.
Fink, Donald Fink, James Albert, Jr. A.B. 1949, The George Washington University	N.Y.	Fish, Joanne Margaret A.B. 1949, The George Washington University	D.C.
Fink, Jules Verne Fink, William Walter B.S. 1947, M.S. 1948, University of Wisconsin	D.C.	Fishbein, Lawrence B.S. 1948, Brooklyn College	N.Y.
Finken, Warren Elroy B.S. in M.E. 1948, University of Wisconsin	N.J.	Fishel, Katherine Harriet A.B. 1945, University of North Carolina	N.C.
Finlay, Helen King A.B. 1945, Huntingdon College A.M. in Ed. 1947, The George Washington University	Va.	Fisher, Anne Marie B.S. in Ed. 1948, University of Virginia	Va.
Finlayson, Margaret Nadine A.B. 1948, Pomona College B.L.S. 1950, University of California	Va.	Fisher, Carl William Fisher, Caroline Spoor A.B. 1944, Vassar College	Ohio Va.
Finn, Isidore B.S. 1950, College of the City of New York	Calif.	Fisher, Donald Vincent Fisher, Frank Marshall B.S. 1943, United States Coast Guard Academy	D.C. Md.
Finn, John William Finn, Michael Herbert Paul A.M. 1949, University of Maryland	N.Y.	Fisher, Freda Geraldine Fisher, Gerard Henderson Fisher, Henry Estorge	Pa. Va. Va.
Finigan, Robert James B.S. 1946, University of Notre Dame	Conn.	Fisher, James Lloyd Fisher, Janet Elizabeth Fisher, Joseph Lyman	N.C. Va.
Finell, Albert Thomas Finell, Robert Francis Finney, Charles Narber Finne, Frances Ruth A.B. in Ed. 1950, A.M. 1951, The George Washington University	Md.	B.S. 1935, Bowdoin College A.M. 1938, Ph.D. 1947, Harvard University	N.J.
Finstad, Alice Olga A.B. 1947, Montana State University A.B. in Govt. 1950, The George Washington University	Va.	Fisher, Kurt Fritz Fisher, Margaret Winslow A.B. 1943, Reed College	Va.
Finta, Quinn Fior, Frank L. A.B. 1950, Brooklyn College	Mass.	Fisher, Marilouise A.B. 1946, The George Washington University	Pa.
Fiorillo, Anthony Carmen Fiorillo, Philip A.B. 1950, Kent State University	D.C.	Fisher, Patty Burkhardt Fisher, Virginia Mae Fishman, Gerald Emmanuel Fishman, Gerson M. Fitch, Charles Thomas B.S. 1950, The George Washington University	Mont. D.C. N.Y. D.C. Md.
Fiorini, Samuel Joseph Fior, Lewis Milton, Jr. Firmbacher, Frederick Stephen Fischer, Paul Emanuel Fischer, Harry Carl A.B. in Govt. 1940, J.L.B. 1951, The George Washington University	Va.	Fitch, Doris Jean Fitch, Paul Bernell Fitton, Anne Marie Fitton, Harvey Nelson, Jr. A.B. 1940, The George Washington University	D.C. Mich. D.C. Va.
Fischer, Herbert S. BS in E.E. 1948, University of Missouri	D.C.	Fitzgerald, Gerald Arthur FitzGerald, Henry St. John A.B. 1951, Georgetown University	D.C. Va.
Fisher, John Janos J.D. 1952, University of Szeged, Hungary M.Comp.L. 1951, The George Washington University	N.Y.	Fitzgerald, Juanita Rhodes BS 1941, Madison College	Md.
Fisher, Julius Benjamin A.B. 1947, A.M. 1949, Rice Institute	D.C.	Fitzpatrick, Edward James Fitzpatrick, Francis Gerard A.B. 1950, Catholic University of America	D.C. Conn.
Fisher, Mary Jane Fitzman, Morton Fitzman, Morton William Fitz, James Norman Aime BS 1945, College of William and Mary	Md.	Fitzpatrick, George Ruddell A.B. in Govt. 1951, The George Washington University	Pa.
Fish, James Monroe BS 1945, College of William and Mary	Pa.	Fitzpatrick, Roger Jerome Fitzpatrick, William Joseph FitzRandolph, Robert Lincoln A.B. 1950, Westminster College	D.C. Md. Pa.
Fish, Joyce M. P. A.B. 1949, University of Utah	Va.	Fitzwater, Crystal Aldace B.S. in Ed. 1938, A.M. in Ed. 1935, Columbia University	Va.
	Mass.	Fitzwater, Ivan Welton B.S. 1944, Northeastern University LL.B. 1951, The George Washington University	Md. D.C.

Flanagan, Francis James B.Ch.E. 1918, Catholic University of America	D.C.	Flood, Thomas Hayes B.S. in Ed. 1936, New York State College for Teachers, Buffalo	D.C.
Flanagan, Robert B.S. 1918, M.S. 1939, Massachusetts Institute of Technology	Tex.	A.M. in Ed. 1947, The George Washington University	D.C.
Flanagan, Thomas Gilbert, Jr.	D.C.	Florance, Eustace Lee, Jr. A.B. 1943, Harvard University	Italy Va.
Flannery, Joseph Patrick	D.C.	Florentino, Mario	
Flatau, Howard Clarence B.S. 1949, University of Dayton	Mich.	Flores, Anthony Herald B.S. in F.E. 1949, Texas Agricultural and Mechanical College	Kans. D.C. N.J. Mo. D.C. Mich. N.Y. Neb. Pa.
Flather, A. Chester	D.C.	Flores, Eremia	
Flax, Louis B.S. 1943, University of Maryland	D.C.	Flores, Eugene	
Flechel, Kurt Otto	Md.	Flory, June Anne	
Fleck, Stephen Edward B.S. 1939, Thiel College	Pa.	Flowers, Carl Vincent	
Flegal, Martin Good B.S. 1940, Pennsylvania State Teachers College, West Chester	Pa.	Floyd, John Phillip	
Fleming, Ellen Cornelia	Mass.	Floyd, Shirley Margaret	
Fleming, James Carlton A.B. 1940, LL.B. 1951, Duke University	N.C.	Flurie, Eugene Gordon	
Fleming, John Daly A.B. 1929, University of New Hampshire	D.C.	Flynn, David Victor	
Fleming, Mary Lee	Md.	Flynn, James G.	
Flemer, Albert Lawrence, Jr.	Del.	Flynn, Joseph Earl	
Fletcher, Beverley Wythe	D.C.	Flynn, Katherine Brigid B.S. 1937, Carnegie Institute of Technology	N.Y.
Fletcher, Ferne	D.C.	Ed.M. 1941, University of Pittsburgh	
Fletcher, George Arlen	Calif.	Flynn, Laurence Brenden B.S. in Eng. 1950, The George Washington University	D.C. Pa. Mo.
Fletcher, John George	D.C.	Flynn, Roma Julien	
Fletcher, William Bartlett, Jr. B.S. 1920, United States Naval Academy	D.C.	Flzyk, Thomas Stephen	
M.S. 1927, Columbia University		Foard, Charles Mann B.E. in C.E. 1938, Johns Hopkins University	Chas. Me.
Fletcher, William Stone	Va.	Foate, Richard William	
Fleury, George Edward	Va.	Fochios, Steve Evangelos B.S. 1949, University of Maryland	N.Y. D.C. Pa.
Fleury, Leonie Anne	Mass.	Foelak, Judy Marilyn	D.C.
Flick, Charles Richard	Pa.	Foer, Raymond	
Flickinger, Ida May A.B. 1911, Oberlin College	Va.	Foerster, Mary Agnes	Swe. D.C.
A.M. 1912, Columbia University		Fogarty, William John	
Flickinger, Ted Lawrence B.S. 1900, Western Reserve University	Ohio	Fogelberg, Malin Karin Christina	
Flieger, Howard Wentworth, Jr.	Md.	Fognano, Carmin Oscar B.S. in Ed. 1916, Temple University	D.C. D.C.
Fling, Martha Kathryn A.B. 1949, The George Washington University	Ga.	Foldenauer, Robert Carl	
Fling, Richard Benjamin B.E.F. 1951, The George Washington University	D.C.	Foley, Annette Haworth B.S. 1948, Wilson Teachers College	D.C. Ga. Me.
Flinn, Samuel Roy	W.Va.	A.M. in Ed. 1951, The George Washington University	
Flinn, Delbert Harrison A.B. 1934, Salem College	Va.	Foley, Martin Francis	
Flinn, Franklin F. B.S. 1946, Lynchburg College	Va.	Folger, Mabel Doane	
M.S. 1950, University of Virginia		Folk, John William	
Flinn, George M., Jr. A.B. 1940, Harvard University	D.C.	Folk, John William	
LL.B. 1945, The George Washington University		Follett, Robert Thor A.B. 1947, University of California at Los Angeles	Mass.
Flinn, Helen Marrs A.B. 1911, Mount Holyoke College	D.C.	Follett, George Leonard B.S.F. 1950, Purdue University	Va.
A.M. 1916, New York University		M.F. 1951, Duke University	
Flippo, Bertie Elizabeth A.B. 1942, University of Richmond	Va.	Follin, John Walker A.B. 1947, Yale University	Pa. Ind.
Flockey, Paul Jay A.B. 1951, Lebanon Valley College	Pa.	Folse, Kenneth Hemke A.B. 1947, Yale University	
Flood, Patrick Joseph	D.C.	Folsom, Dee Elwood B.S. 1948, Wilson Teachers College	N.Y. Va.
		Foltz, John Frederick B.S. 1941, Texas Technological College	Mass.
		Fonannon, Gerald Elmer B.S. 1941, Texas Technological College	
		Fontaine, Conrad Achilles A.B. 1949, Syracuse University	Pa.
		Fontaine, Robert Richard A.B. 1949, University of Southern California	Pa. Mo.
		Foor, Milton A. A.B. 1947, University of Southern California	
		Forchielli, Gino A.	

# Students Registered

463

Forcum, James Evans A.B. 1950, The George Washington University	Md	Foster, Roy Archibald A.B. 1947, Concordia College	Va
Ford, Austin Joseph B.S. 1942, Pennsylvania State Teachers College, East Stroudsburg	Pa.	Foster, James F. Jean A.B. 1949, Ohio State University	Va Ohio
Ford, Dolores Jane M.S. 1947, Pennsylvania State College	D.C.	Foust, Betty Jean A.B. 1948, Glenville State College	D.C. Md
Ford, Eugene Francis D.C.	D.C.	Fowle, Morgan Rene B.S. 1950, Wilson Teachers College	D.C.
Ford, John Paul D.C.	Oreg.	Fowler, Basil Ralph, Jr. A.B. 1942, University of Wyoming	Va Wyo
Ford, Peter Lewis B.S. 1950, University of Portland	Md	Fowler, George Thomas A.B. 1943, Mount Holyoke College	Md
Ford, Robert Nelson Foreman, Eva Ogren Forester, Joseph I. Wood Foreman, Andrea Marie Foreman, Hamilton Foreman, James Robert Foreman, Virginia Polytechnic Institute	N.C. Va. D.C. Ariz. D.C.	Fox, Barbara Anne Fox, Eugene Austin Fox, John Joseph B.S. 1938, Harvard University	Va D.C. N.I. S.C.
Foreman, Ovid Thomason, Jr. A.B. 1948, The George Washington University	Va. N.J.	Fox, Logan Hugh Fox, Richard LeRoy B.S. 1948, Georgetown University	Md. D.C.
Foreman, Herbert Emerson A.B. 1949, The George Washington University	Va.	Fox, Robert E. B.S. in Ed. 1948, Youngstown College	D.C. N.Y.
Foreman, James Emery B.S. 1945, United States Naval Academy	Mich.	Fox, Saul Aaron Fox, Wallace Jefferson A.B. 1943, Kentucky Wesleyan College	Ky
Fort, John Emerson B.S. in M.E. 1949, Oklahoma Agricultural and Mechanical College	Va	AB 1949, University of Kentucky	Ohio
Fortberg, Robert Andrew B.S. 1947, University of Maryland	Md.	Fox, William Lloyd A.B. 1943, A.M. 1945, Western Reserve University	D.C. Tex.
Fortner, Etta Bett Fortner, R. Adolph Fort, Anna Buelah B.S. 1944, Wilson Teachers College	Va. D.C. D.C.	Fox, William Raymond Fox, Darius H. Fox, Edward James, Jr. A.B. 1943, University of Texas	D.C. Tex. Brazil
Fortner, Jean Paul Fortman, Leonard Joseph A.B. 1951, Loyola University	France Ill	Foz, Alberto dos Santos A.B. 1944, University of Brazil A.M. 1947, University of Minnesota	N.Y.
Fortney, Harold Ross, Jr. Fortman, Aldo Fortman, Myron Hal Fove, Rose Fove, Joseph Nicholas B.S. 1950, Washington University	Kana D.C. Va. Ohio D.C.	Frank, Albert Irwin Frank, William Robert Frank, Betty Ina Frank, James Hartwell A.B. 1951, St. John's College, Maryland	D.C. Md
Fortner, Carl Burton A.B. 1949, A.M. 1950, Indiana University	Va.	Frank, Benjamin Thomas B.S. in E.E. 1941, M.S. in M.E. 1949, United States Naval Academy	Iowa
Fortner, George Samuel B.S.A. 1943, University of Tennessee A.M. in Ed. 1948, The George Washington University	Tenn.	Frank, Louis J. B.S. 1945, Minnesota State Teachers College, St. Cloud A.M. 1948, University of Minnesota	Va D.C.
Fortner, James Patrick B.S. 1950, United States Merchant Marine Academy	D.C.	Frank, Charles F. Frank, Clifford Dale Frank, Milton John A.B. 1951, The George Washington University	W.Va. Md
Fortner, John Arthur E.E. in Ed. 1950, Madison College	Md Va	Frank, William McCafferty Frank, Glenn Herbert Franklin, Isaac Christian A.B. 1948, University of Nebraska	Va Nebr. Va
Fortner, M. Lorraine Fortner, Marie L. Fortner, Matthew Francis Fortner, Maxwell Kenyon Fortner, Neal Strong Fortner, Paul Allen Fortner, Robert Middleton A.B. 1944, University of Michigan	Md. D.C. Mo. Fla. D.C. Mich	Frank, Arnold Roy A.B. 1946, A.M. 1948, Johns Hopkins University Frank, Marjanda A.B. 1949, American University Frank, Rose Margalene Frank, Susan Hall Frank, William Frederick	Md D.C. W.Va. D.C. D.C.



Frankel, Abraham	N.Y.	Freeman, Marian Virginia	D.C.
B.S. 1933, Brooklyn College		B.S. 1948, M.S. 1949, The George Washington University	Md.
B.S. in M.E. 1941, Cooper Union	D.C.	Freeman, Marilyn	Md.
Frankel, Alice	Va.	Freeman, Mary Blackwood	D.C.
Frankhouse, Patricia Ann	D.C.	A.B. 1943, Washington College	Ill.
Franklin, Beatrice Browne		Freeman, Mary Gray	
B.S. 1943, Mary Washington College	D.C.	Freeman, Richard Alan	Va.
Franklin, Edwin Abbott, Jr.	Pa.	A.B. 1949, University of Chicago	Md.
Franklin, James Rynd	Mass.	Freesland, Jacob William, Jr.	D.C.
Franklin, Jordan		Freiburghouse, Elizabeth Anne	
B.S. in M.E. 1946, Worcester Polytechnic Institute	Md.	French, Dorothy E.	W.Va.
Franklin, Neal Dow		B.S. 1947, University of Vermont	Ohio
LL.B. 1926, University of Maryland	Pa.	French, Dorothy Marie	D.C.
Franko, George Michael		French, Orville Sidney	D.C.
A.B. 1950, Western Maryland College	D.C.	French, Russell William, Jr.	
Franks, Diane	Nev.	French, Warren B., Jr.	D.C.
Franks, George William		B.E.F. 1947, University of Virginia	N.Y.
A.B. 1950, University of Nevada	D.C.	French, William F.	N.Y.
Franks, Georgia	Pa.	French, Carolyn Frances	D.C.
Frantz, Caleb Hoffer		Frenkel, George L.	
B.S. in Ed. 1941, Manchester College		Freese, Phyllis Langhitt	Va.
A.M. in Ed. 1951, The George Washington University	Ill.	A.B. 1950, The George Washington University	Md.
Franz, John Henry		Freshman, Arthur Samuel	
B.S. 1948, University of Notre Dame	D.C.	Freudenberg, Maxwell Charles	Md.
LL.B. 1951, Georgetown University	Md.	B.S. in E.E. 1948, University of Illinois	Md.
Franklinelli, Mary Virginia	Mich.	Freyesen, Rudolf Charles	
Fraser, Donald Briz	W.Va.	A.B. 1949, University of Maryland	Md.
Fraser, George Rodrick	D.C.	Friaglia, Leo	
Frashure, Sara Lee		B.M.E. 1943, College of the City of New York	Va.
Frattin, Rayleona		Frick, James Frederick	Tex.
A.B. 1941, The George Washington University	D.C.	Frick, Josephine Elizabeth	N.Y.
Frawley, Agnes Ann	Ala.	Friedberg, Aaron Martin	
Frazier, Mary Ann B.	Va.	Friedberg, Seymour	Va.
A.B. 1937, Smith College	D.C.	A.B. 1948, New York University	D.C.
Frazier, Griffin Guy		Friedenberg, Annie Eva	Calif.
DDS 1916, The George Washington University	D.C.	Friedenberg, Ina Ruth	
Frens, Donald Hayes	Md.	Friedlander, Florence H.	
Frens, Howard Jacob, Jr.		Friedlander, Herbert David	
A.B. 1950, A.M. 1951, Temple University	Mass.	A.B. 1940, A.M. 1943, University of California	D.C.
Frechtman, Miriam Isenman		Ph.D. 1949, Tulane University	Md.
A.B. 1947, The George Washington University	Va.	Friedman, David Benjamin	D.C.
Fredenthal, Marian Griffiths	N.Y.	Friedman, Dorothy Life	
Frederick, Robert Martin	D.C.	Friedman, George	D.C.
Fredland, Laura	Md.	B.S. 1928, LL.B. 1929, New York University	N.Y.
Fredlund, Robert Richard	Calif.	Friedman, John August	
Freebairn, J. Richard	D.C.	Friedman, Leonard S.	D.C.
Freedenberg, Marvin		B.S. 1947, College of the City of New York	
A.B. 1950, West Virginia University	D.C.	Friedman, Lewis Samuel	N.Y.
Freedman, Joyce Louise	N.C.	LL.B. 1906, LL.M. 1909, New York University	
Freedman, William	D.C.	Friedman, Norman	
B.S. in M.E. 1945, Duke University	Va.	B.S. in M.E. 1945, College of the City of New York	
Freeman, Abraham		Friedman, Reuben	N.Y.
Freeman, George Parrish, Jr.	Va.	B.Ch.E. 1949, College of the City of New York	
A.B. 1950, University of Virginia	Md.	A.M. 1950, Columbia University	Va.
Freeman, Harlan Edwin		Friedman, Sidney	
Freeman, Horatio Putnam	Tex.	A.B. 1939, Brooklyn College	
B.S. 1947, Dickinson College	N.C.	Friedman, Sidney	Va.
Freeman, Jack E.		B.S. 1935, Long Island University	D.C.
Freeman, Jack Miller	Va.	A.M. 1937, Columbia University	Danmark
B.S. 1940, Florida Southern College	Va.	Friend, Louise Jeffreys	
Freeman, James Monroe	D.C.	Friend, Patricia Ann	
Freeman, James Thomas		Friso, Sorenson Bente	
Freeman, Jo Fisher			
A.B. 1920, University of Arizona			
A.M. 1927, Harvard University			

# Students Registered

465

Frishman, Fred B.B.A. 1947, College of the City of New York	Md.	Funkhouser, Curtis Lee	Va.
Frishman, Samuel E.		Funston, Chester Clifford	Kans.
Frith, Raymond John	N.Y.	Furey, Ann S.	D.C.
Friz, Bernard James	Pa.	Furiga, Peter Lorenzo	Mass.
Frizzo, Tullio Giovanni		B.S. in Ed. 1941, Boston University	
Frodama, Michael Mitchell	N.Y.	Furlong, Patricia Lydon	D.C.
B.S. 1942, University of Massachusetts	Va.	Furlow, William Loomis	Minn.
A.M. 1947, Columbia University	Mass.	A.B. 1948, Carleton College	
M.S. 1949, University of Hawaii		Forman, Greene Chandler	D.C.
Frohwein, Peter		LL.B. 1950, Tulane University	
Frost, Albert Lamar	D.C.	Furtado, Laura	Mass.
B.S. 1948, Piedmont College	D.C.	Furth, John Van Etten	Maine
Frost, Jack Arthur		A.B. 1943, Dartmouth College	
Frustick, Howard	D.C.	Furth, Page Turner	Md.
Fry, George Edward	N.J.	A.B. 1926, Western Maryland College	
A.B. 1951, The George Washington	N.J.	Furter, Ralph William	Va.
University		Fusillo, Matthew Henry	Md.
Frye, Margaret Fulton		B.S. 1948, University of Maryland	
A.B. 1947, Berea College	D.C.	Fussell, Willis, Jr.	Md.
Frye, Mildred Louise		Futrovsky, Charles	D.C.
B.S. 1947, University of Pittsburgh	D.C.	B.S. 1947, M.S. 1948, The George	
Fryer, Dorothea Constance		Washington University	
A.B. 1940, The George Washington	D.C.	Futterman, Sidney	D.C.
University		B.S. 1950, The George Washington	
Fuchigami, Walter Naoaki		University	
A.B. 1950, Colorado State College of	Calif.	Fuzzell, Betty Ann	Ky.
Education			
Fuchs, Frances Rice		Gabbard, Wilbur James	D.C.
A.B. 1927, Mount Holyoke College	D.C.	Gable, Robert Barth	Pa.
J.D. 1931, New York University		Gabriel, Eleanor Jane	D.C.
Fuchs, Fred		Gadberry, Roy Kincaid	Ky.
Fuchs, Henry		Gadbois, George Albert	Mass.
Fuchs, William Francis	N.Y.	B.S. in E.E. 1951, Catholic Univer-	
B.S. 1950, University of Nebraska	N.J.	sity of America	
Eguate, John Hagan	D.C.	Gadomas, Pauline Joan	D.C.
Fugate, Wilbur Lindsay	Nebr.	Gagler, Francis Xavier, Jr.	Md.
A.B. 1944, Davidson College	Md.	Gaertner, Robert Montague	D.C.
LL.B. 1947, University of Virginia	Va.	Gaffney, Joan Marie	D.C.
LL.M. 1950, The George Washington		A.B. 1941, Emmanuel College	
University		Gage, Elena Lempi	Va.
Fugler, Bartley Andrew		A.B. 1928, Tufts College	
A.B. 1948, American University	Va.	Gager, Charles Cottet, Jr.	D.C.
Fulcher, Robert Clinton, Jr.		Gahres, Edward Elias	N.J.
A.B. 1940, The George Washington	Md.	B.S. 1940, Rutgers University	
University		Gailbreath, Mary Nell	Va.
Fulensky, Charles Andrew	Pa.	Gaillard, William Edward	Ga.
Fulmer, Carol Yvonne	D.C.	B.S. 1948, United States Naval	
B.S. 1940, Purdue University	Md.	Academy	
Fulmer, Constance Jane		Gaines, Thomas Barrett	D.C.
B.S. 1939, Aurora College	N.C.	Galane, Morton Robert	N.Y.
A.M. in Ed. 1947, The George		LL.B. 1950, The George Washington	
Washington University		University	
Fulmer, James Harlan, Jr.		Galarza, Robert	D.C.
Fulmer, Robert J.		Gale, David Ireland	D.C.
B.S. 1951, University of Maryland	D.C.	A.B. 1951, Catholic University of	
Fuller, William Elliott	D.C.	America	
B.S. in M.E. 1944, United States	D.C.	Galindo, Deomedes Ignacio	Calif.
Coast Guard Academy		B.B.A. 1946, Woodbury College	
Fullerton, Diane	N.J.	A.M. 1950, New Mexico Highlands	
Fullmer, Gay Williston		University	
Funner, Ward Glenn, Jr.	D.C.	Gall, John Christian	D.C.
Funk, Morton Irwin	Va.	B.S. 1940, Yale University	
Funk, Richard Hodges	Ohio	Gallagher, Donald Robert	Pa.
Funkhouser, Claude	Md.	A.B. 1951, St. Francis College	
B.S. in M.E. 1943, University	Kans.	Gallagher, Eugene Bennett	Pa.
of Maryland	Md.	A.B. 1949, Lehigh University	
		Gallagher, Francis Vincent	Va.
		Ph.B. 1948, Providence College	
		Gallagher, Harriet Blanch	D.C.
		Gallagher, Helen Maryel	D.C.
		Gallagher, James Frederick	N.Y.
		Gallagher, Joan Marsetta	Va.

Gallagher, John Michael, Jr.	Va.	Gargano, Fredie Patrick	NJ
Gallagher, Joseph Matthew	D.C.	B.S. 1947, The George Washington University	D.C.
B.S. in P.E. 1944, The George Washington University		Gargus, James Leon	Va.
Gallagher, June S.	D.C.	B.S. 1950, The George Washington University	
A.B. 1925, Carleton College		Garhart, Bernard Howard	D.C.
Gallagher, Laurie Anne	D.C.	B.S. in Ed. 1948, Pennsylvania State Teachers College, Slippery Rock	W.Va.
Gallant, Arthur	D.C.	Garland, William Arthur	
Gallier, Gerald Milton	N.Y.	Garlick, Naomi Mary	N.Y.
Gallinek, Wilfred Ernest		A.B. 1949, Pennsylvania College for Women	
A.B. 1951, Syracuse University	Panama	Garlock, Dolores Diane	D.C.
Gallivan, John Daniel III		Garlock, Robert Austin	D.C.
B.M.E. 1944, Catholic University of America		A.B. 1942, Union College	D.C.
Galloway, Victor Henry	Md.	Garner, Frederick Meed, Jr.	D.C.
Gallup, Elizabeth Hale	D.C.	Garner, George William	Md.
Gallup, Nancy Ruth	Conn.	Garner, Leona Lucida	N.Y.
Galtvin, William Michael, Jr.	Md.	Garner, Suzanne S. T.	N.Y.
Galzerano, Arthur William	Pa.	Garner, Yancey Holmes	D.C.
B.S. in M.E. 1950, University of Pittsburgh		Garno, Kenneth James	D.C.
Gambacorta, Francis Michael	Va.	Garrett, Anthony Matthew, Jr.	D.C.
B.S. 1945, United States Naval Academy		Garrett, William Donaldson	Md.
Gambel, Sergius	D.C.	Garrettson, Ralph Edward	N.J.
Gable, Elise Miles	Va.	Garrison, James Luther	
A.B. 1951, Hollins College		Garrison, Lynn Willard	
Gambosa, Edwin Francis	Philippines	Garns, Edward Joseph	Va.
Gambosa, Melquiades Irving, Jr.	Philippines	Gartlan, Charles Gregory	D.C.
Gambosa, Pearl Grace	Philippines	A.B. 1948, Roanoke College	Md.
A.B. 1950, Wason College (Pa.)		Gartland, Alice Johnson	
Gammeter, Gloria Grace	Ill.	Gartner, Robert Martin	
Gauderman, Margaret Lynne	D.C.	Gartrell, Archibald, Jr.	
Ganz, Robert E.	Va.	Garver, Clifford Elliott	
B.E. 1948, University of Toledo		A.B. 1948, The George Washington University	Va.
Ganley, John Leo, Jr.	Va.	Garzaglia, Bernard John	Md.
Gann, Mary Lou	D.C.	Garzbori, Sylvia Loretta	D.C.
Gannon, Evelyn Mary	N.J.	Gaskell, Richard Mullen	Tenn.
Ganoe, Francis E.	D.C.	Gass, Edmund Cody	
Gantat, Mark Martin	Ill.	A.B. 1947, Carson-Newman College	P.
B.S. in C.E. 1940, Northwestern University		A.M. 1951, University of Tennessee	P.
M.M.E. 1948, Rensselaer Polytechnic Institute		Gass, Henry Allen	
Gantz, Richard Farrand	D.C.	Gassaway, Alexander Ramsey	D.C.
Gapeynski, William George	N.Y.	A.B. 1950, University of Virginia	
B.S. 1945, Union College		Gasser, Robert Louis	D.C.
Gappin, John Paul	Mass.	A.B. 1948, University of Denver	
A.B. 1949, Boston University		Gates, Allan Williams	Md.
Garbee, Edwin Theodore	Va.	A.B. 1951, Catholic University of America	Md.
Garber, Marie Virginia	Va.	Gates, John Daniel	
B.S. 1949, Madison College		Gardet, Richard Austin	N.Y.
Garcia, Antonio	Md.	B.S. in M.E. 1947, University of Rochester	
Garcia, Beate Reita	N.Y.	Gaudin, Anthony Carl	Md.
Garcia, Daniel		B.S. 1952, University of Wisconsin	P.
A.B. 1950, New York University		Gaudreau, Mariella Palmyre	
Garcia-Frizz, Ruyne	D.C.	Gault, Mildred Cassandra	Va.
B.S. 1944, University of San Marcos		A.B. 1947, Converse College	P.
Garcia, Manuel Gilberto	Md.	Gammond, Edward Joseph	Va.
A.B. in Govt. 1949, The George Washington University		Gantt, James Albert	
Garcia, Max Rodriguez	D.C.	Gans, Thomas Francis	
Garcia Palmieri, Rafael A.	Puerto Rico	Gans, William Carl	Newark
A.B. 1951, University of Puerto Rico		A.B. 1945, Bucknell University	P.
Garcia, William M.	D.C.	Gaustad, Bergliot	
Gardner, John Kelsey	D.C.	Gavoor, Rouben	
Gardner, Leander Carl, Jr.	Va.	B.S. 1948, A.M. 1947, New York University	P.
Gardner, Richard DeWay	Utah	Gaylord, Charlene Elizabeth	Pa.
B.S. 1949, Utah State Agricultural College		Gaynor, James Kenneth	
Gardner, Robert Elwood	D.C.	B.S. 1946, I.D. 1950, Indiana University	
		Gazaway, Joseph Naaman	



# Students Registered

467

Geary, Daniel Joseph	Va.	German, John Robinson	Mass.
Gedney, Dia	D.C.	German, John William, Jr.	Ind.
Gedney, Plater Tayloe	D.C.	B.S. 1949, Rose Polytechnic Institute	
Geer, Wesley Harmon	Calif.	German, Josephine Elisabeth	Mich.
A.B. 1951, University of California		A.B. 1948, University of Michigan	
at Los Angeles		German, Waldo Ross	Md.
Geest, Ernest L.	Ga.	German, Demosthenes James	Va.
Gehring, Dorothy Louise	Md.	A.B. in Govt. 1951, The George	
Gehring, Edward Charles	Va.	Washington University	
Geyer, Herbert George	Va.	Gernert, Virginia M.	Va.
Geyer, Jesse Browning	Md.	A.B. 1943, Juniata College	
Geist, John Willard	Pa.	Gernova, Lola Patricia	D.C.
B.S. 1914, United States Naval		Gerow, Lee Saunders	D.C.
Academy		B.S. 1911, Virginia Military Institute	
Gekker, Paul	Md.	Gerry, Martin E.	D.C.
A.B. 1948, A.M. 1949, The George		B.E. 1948, Brooklyn Polytechnic	
Washington University	Pa.	Institute	
Gelb, Joseph Donald	Md.	Gershenson, Leo Eli	D.C.
B.S. 1950, University of Scranton		B.B.A. 1942, College of the City of	
Gelland, Babette	D.C.	New York	
Gelland, Sidney Samjester	Va.	Gertsch, Betty Lee	Md.
Gelman, Aaron Jacob	D.C.	Gertz, Albert Edward	Pa.
A.B. 1950, University of Virginia		Geserick, Harry Clarence	Va.
M.B.A. 1951, University of Chicago		Geske, John H.	Iowa
Gemmell, John Donald	Pa.	Gessow, Irving David	D.C.
Generally, Richard Fleury	D.C.	B.Ch.E. 1949, College of the City of	
Gentile, Augustine	Md.	New York	
Gentner, Walter Andrew	D.C.	M.S. 1945, University of Pennsylvania	
A.B. 1951, The George Washington		Gesterling, Arthur Campbell	Md.
University		Getchell, John Stirling	D.C.
Gentry, Edward Eugene	Md.	A.B. 1948, Harvard University	
A.B. 1945, Longwood College	Va.	A.M. 1950, Columbia University	
Gentry, Wanda Cable	D.C.	Gettings, Theresa Anne	D.C.
George, Darcy Matthew	Va.	B.S. in Ed. 1941, Massachusetts State	
E.E. 1926, Lehigh University		Teachers College, Worcester	
George, Desmond Alvis	Va.	Getty, Richard Forsyth	Md.
B.S. 1941, Stephen F. Austin State		Gex, Robert Campbell	D.C.
Teachers College		A.B. 1950, M.S. 1951, University of	
George, Harry Richard	D.C.	Southern California	
B.S. 1950, University of Alabama		Ghizzoni, Audrey Constance	Pa.
George, Henry Lewis	D.C.	A.B. 1948, Catholic University of	
George, Joan Marjorie	Va.	America	
B.S. in H.E. 1950, The George		Ghizzoni, John Felix	Pa.
Washington University		B.S. 1943, University of Pennsylvania	
George, John A.	Pa.	LL.B. 1949, Catholic University of	
A.B. 1942, Waynesburg College		America	
George, Joseph Homen	Mass.	Ghyssels, Rosalyn Maude	Mich.
George, Elsa Louise	Honduras	Giampetruzzi, Nicholas	D.C.
George, Lynn Darcy	Va.	Giammy, Mary Ann	D.C.
George, Marilyn Joyce	D.C.	Giannini, Vera	D.C.
Gerashvich, Theodore Alexander	Va.	Giannone, Charles	N.J.
Gerashvich, Joan M.	D.C.	Giaquinto, Eugene Louis	Conn.
Geran, Ruth Ann	Va.	A.B. 1951, The George Washington	
A.B. 1944, American University		University	
Gerard, Richard	Mo.	Gibbons, Armée Des Pland	N.C.
B.S. 1949, Kansas State College		Gibbons, Florence Katherine	Conn.
Gerb, Bernard	N.Y.	Gibbons, Helen Elizabeth	D.C.
B.F.E. 1950, Cornell University		Gibbons, Richard Lemuel	D.C.
Gerber, Harriet May	N.Y.	Gibbs, Julian Glenwood, Jr.	Md.
B.S. in Ed. 1947, New York State		Gibbs, Richard Sanborn	D.C.
College for Teachers, Buffalo		Gibbs, Robert Stewart	Va.
Gerbrick, James William	Wis.	LL.B. 1951, The George Washington	
B.S.E. 1949, M.B.A. 1950, University	Mich.	University	
of Michigan		Giberson, Howard Samuel	D.C.
Gerhard, Edmund James	Va.	A.B. 1941, Harvard University	
A.B. 1950, The George Washington		Gibney, Edith Cecelia	Pa.
University		Gibson, Alva Dana, Jr.	D.C.
Gerhardt, Robert Bernard	Md.	Gibson, Judith Anne	Wash.
B.S. in M.E. 1947, Northwestern		A.B. 1951, Stanford University	
University	D.C.	Gibeon, Paul	D.C.
Gerhold, William Franklin			

Gibson, Rankin MacDougal	Ma.	Gilmer, Mattie Simms	Va.
LL.B. 1939, University of Missouri		B.S. 1941, Radford College	N.J.
B.S.L. 1948, St. Paul College of Law		Gilmore, Charles Goddard	
LL.M. 1950, The George Washington		B.S. 1939, Washington and Lee	
University		University	
Giglio, William Peter	Md.	M.B.A. 1940, University of Pennsylvania	W.Va.
Gilbard, Burton B.	D.C.	Gilmore, Edward Lee	Wash.
Gilbert, David McCalvey	Md.	A.B. 1949, West Virginia University	
Gilbert, Helen Gladys Dohrmann	Md.	Gilmore, Francis John	D.C.
A.B. 1930, Goucher College	Pa.	A.B. 1951, Georgetown University	D.C.
Gilbert, James Bryson		Gilmore, Leland Thomas	Ala.
B.S. 1943, Haverford College		Gilroy, William Earl	Va.
M.D. 1946, Jefferson Medical College	Pa.	Gilroy, Lillian Rebecca	D.C.
Gilbert, Joanne Kay		Gilster, Eulah Gene	
A.B. 1951, University of Maryland	Fla.	Gimble, Abraham Isaac	
Gilbert, Lucy Adelia		B.S. 1943, M.S. 1948, The George	D.C.
A.B. 1920, John B. Stetson University	D.C.	Washington University	N.Y.
Gilbert, Stanley Ormand	Ala.	Gimble, Gilbert	D.C.
Gilbert, Thomas Martin		Gindoff, Alan Solomon	Va.
A.B. 1940, Athens College	Ala.	Gingrich, Bert Neil	Md.
Gilbreath, Geroda Edith	Tex.	Gingrich, Clyde Robert	
Gilchrist, Grace Margaret	N.Y.	Ginsberg, David Kellner	D.C.
Gilden, Lloyd	Miss.	A.B. 1951, The George Washington	D.C.
Giles, Olen Gallaspy	Va.	University	
Gilford, Leon		Ginsburg, Harry	
A.B. 1939, Brooklyn College		Ginsburg, Diana Louise	Va.
A.M. 1949, The George Washington		A.B. 1951, Swarthmore College	Mo.
University		Gioia, Lucia Jean	Wash.
Gilgash, Curtis Arnold	Md.	Giokaris, James Daniel	D.C.
A.B. 1949, Washington College		Gipple, Jim William	Va.
Gilotti, Peter Alfonso	D.C.	Giraldi, Almerigo	D.C.
Gill, Charles Richard	Md.	Girardi, Sam Hugh	
A.B. 1951, Lafayette College		Girolami, Andrew Joseph	Caba.
Gill, Edgar Allan, Jr.	Md.	B.S. 1948, Georgetown University	D.C.
Gill, Rowland Pearson	La.	Giroud, Aurelio Juan	Va.
A.B. 1949, Louisiana Polytechnic		Girvin, Joan Isabelle	
Institute		Giser, Harold Walter	
Gillard, William Henry	D.C.	Gitlin, Joseph Norman	N.Y.
A.B. 1950, The George Washington		A.B. 1951, University of Pennsylvania	
University		Gittelman, Ruth	
Gilleen, Marfred Elwood	Md.	A.B. 1949, Brooklyn College	Md.
B.S. in E.E. 1950, Washington		M.S. 1951, University of Wisconsin	
University		Gittings, Thomas Morton, Jr.	
Gillespie, Constantine John	D.C.	LL.B. 1951, The George Washington	D.C.
Gillespie, Elizabeth R.	Ky.	University	D.C.
Gillespie, George John	D.C.	Gittleton, Ralph Leonard	
Gillespie, James Alexander	D.C.	Giuffrida, Robert Thomas	
Gillespie, Richard James	N.Y.	A.B. 1949, A.M. 1950, University of	
Gillette, Kirby Marvin	D.C.	Rochester	
A.B. 1951, University of Michigan		Giusti, Natalio	Max.
LL.B. 1937, Wayne University		Glaser, Abraham Albert	D.C.
Gillette, Nadine Gray	D.C.	Glaser, Joan Florence	D.C.
Gillette, Shirley Marie	D.C.	Glaser, Stanley	D.C.
Gilliam, Frank Peter	Md.	Glass, Elsa Dik	D.C.
B.M.E. 1937, Catholic University of		A.B. in Govt. 1946, The George	
America		Washington University	
Gilliam, Homer, Jr.	Va.	Glassberg, Lee	
Gilliam, Paul Edwin	N.C.	Glazier, Anne Andrea	
Gillies, Margaret Palmer	Va.	Gleason, Francis Jerome	
Gillim, Parvin Douglas	Ky.	Gleason, Frederick James, Jr.	
A.B. 1951, Dartmouth College		Gleason, Jo Ann	
Gillis, David Murray	Md.	Gleason, Robert Lee	
B.S. 1941, Georgetown University		Glekas, Louis John	
Glinz, Harry Arthur, Jr.	Ohio	Glekas, Louis Peter	
A.B. 1943, Ohio Wesleyan University		Glenn, Colbert Jordan	
A.M. in Govt. 1950, The George		Glenn, Dorothy May	
Washington University		Glenn, Georgie Sibley	
Gills, June Laverne	D.C.	Glenn, Jean Claire	
Gills, Lelia Rose	D.C.	A.B. 1950, Duke University	
Gills, Louis Catlin	Va.	Glenn, Leo Clarence	D.C.
Gilmartin, Thomas Aloysius	Va.	Glenn, Thomas Herbert, Jr.	
A.B. 1934, Catholic University of		B.S. 1953, The Citadel	
America		Glerum, James T.	
		Gletler, Bernard Urban	

# Students Registered

469

Glew, William Bainbridge B.S. 1950, Yale University	D.C.	Goldenberg, Jacqueline Rose	D.C.
Glodok, Chester Melvin	Va.	Goldenberg, Jerome Albert	Va.
Glover, Donald Jackson B.S. 1949, The George Washington University	Va.	Goldenberg, Melvin M. B.M.E. 1949, Catholic University of America	D.C.
Glover, James Edward	Va.	Goldenthal, Edwin Ira	D.C.
Glovinsky, Sam	N.Y.	Golder, Jacob Victor A.B. 1939, A.M. 1940, Boston University	Va.
Gluskevich, Lincoln Ivan	D.C.	Goldfinger, Walter Bernard B.S. 1941, College of the City of New York	Va.
Glynn, Andrew Martin	N.Y.	Goldin, Sylvan Lippman	D.C.
Gnam, James Henry	Iowa	Goldman, Albert Lawrence B.S. 1951, The George Washington University	D.C.
Gochenour, Richard Donald	Va.	Goldman, Esther Charlotte	D.C.
Goda, Shirley Grace	D.C.	Goldman, Gerald Jack	Va.
Goda, Sidney	Va.	Goldman, Howard Daniel, Jr. A.B. 1951, Washington and Lee University	Va.
Godard, Walter Rawson	Pa.	Goldman, Joan	D.C.
Godbee, Horace Carlton, Jr. A.B. 1941, Emory University	Texas	Goldman, Sherman H. B.S. in M.E. 1948, Northwestern University	Mass.
Godbey, Gloria Swanson A.B. 1949, The George Washington University	D.C.	Goldman, Teuntje Emma	D.C.
Goddard, William Francis A.B. 1949, Catholic University of America	D.C.	Goldman, Thomas Adler A.B. 1919, Harvard University	D.C.
Godley, Barbara Ross A.B. 1950, Bennington College	Mass.	Goldman, William Allen	Va.
Goedeke, Milton Thomas Ed.M. 1941, University of Maryland	Md.	Goldner, Lester B.S.S. 1949, College of the City of New York	N.Y.
Goemaat, Catherine Margaret Goemaat, Edward John A.B. 1951, The George Washington University	D.C.	Goldsand, Rita Fast	N.J.
Goettel, Elmer Praeger A.B. 1951, Duke University	D.C.	Goldsmith, Betsey	N.J.
Goettelman, Robert Clement	D.C.	Goldsmith, Philip	D.C.
Gopate, Mira	N.J.	Goldsmith, Stuart Oliver A.B. 1951, Rutgers University	N.J.
Goglin, Henry Waldo	Md.	Goldstein, Adele Dorothea	D.C.
Golin, George Milton, Jr. B.S. 1951, University of Maryland	D.C.	Goldstein, Arthur Allen	D.C.
Gold, Lewis Gold, Norma Bernice B.S. 1949, Simmons College	Mass.	Goldstein, Betsey Ann	D.C.
Goldbaum, Annette Davis	D.C.	Golistein, Edward	D.C.
Goldberg, Aaron A.B. 1949, Brooklyn College	N.Y.	Golistein, George	N.Y.
Goldberg, Alan Elliott B.S.S. 1949, College of the City of New York	N.Y.	Golistein, Herbert Irving	N.Y.
Goldberg, Alvin Irving B.S. in Ed. 1941, Boston University	D.C.	Golistein, Howard Samuel B.S. 1948, Roanoke College	N.Y.
Goldberg, Bernice Elizabeth Cohen	D.C.	Golistein, Hyman A.B. 1940, A.M. 1941, Ph.D. 1934, Columbia University	Md.
Goldberg, Charles Herbert A.B. 1951, The George Washington University	D.C.	Golistein, Jack Mark	D.C.
Goldberg, David Elliott	D.C.	Golistein, Judith	D.C.
Goldberg, Fred	N.J.	Golistein, Leon George A.B. 1946, A.M. 1949, University of Pennsylvania	N.J.
Goldberg, Irving A.B. in Ed. 1948, The George Washington University	Md.	Golistein, Nathan	D.C.
Goldberg, Louise	N.J.	Golistein, Paul Robert B.S. 1948, Indiana University	Ind.
Goldberg, Martin Herbert	N.Y.	Golistein, Robert Bernard	N.Y.
Goldblatt, Harold A.B. 1946, Indiana University	Md.	Golistein, Trenice Dodeck A.B. 1948, University of Michigan	D.C.
Golden, Joseph Carroll B.S. 1945, Tennessee Polytechnic Institute	D.C.	Golistein, William Oiler B.S. 1949, Washington College	Md.
Golden, Joseph Carroll B.S. 1945, Tennessee Polytechnic Institute	Tenn.	Golin, Gerald	D.C.
Golden, Alysue Sylvia	D.C.	Golin, Joseph Francis	D.C.
Goldenberg, Eva	N.Y.	Golomb, Phyllis	D.C.
		Golovin, Nicholas E. A.B. 1931, A.M. 1936, Columbia University	Va.
		Golovin, Theresa Paula	Md.
		Golub, Abraham A.B. 1941, Brooklyn College	Md.
		Gomolka, Eugene Gregory A.M. 1949, University of Delaware	Pa.



Gonzales, Eloy J.	D.C.	Gordon, Lester Howard	Mass.
Gonzalez, Abraham Murray	Peru	A.B. 1949, The George Washington	Temp.
Gonzalez, Lawrence Niesen	Md.	University	Pa.
B.S. in C.E. 1931, Massachusetts		Gordon, Ruby Nell	Mass.
Institute of Technology	Puerto Rico	Gordon, Shirley Ruth	
Gonzalez-Sapia, Jorge A.		Gore, Alvin B.	
B.S. 1950, Shepherd College	D.C.	A.B. 1932, Marshall College	W.Va.
Good, Roger Conrad	Va.	A.M. 1931, Columbia University	
Goode, Dorothy Gene		Gore, John William	
B.S. in Ed. 1938, Indiana State	N.Y.	A.B. 1947, Shepherd College	D.C.
Teachers College	D.C.	A.M. in Ed. 1950, The George	
Goodfriend, Arnold Irwin	D.C.	Washington University	
Goodman, Cornelia Evans	D.C.	Gore, Mary Augusta	D.C.
Goodman, Barry Michael	N.Y.	A.B. 1950, The George Washington	Va.
Goodman, Catherine June	Va.	University	
Goodman, David Gerson		Gore, William Frederick	D.C.
B.S. 1947, New Jersey State Teachers	Tex.	Goretzka, Edward Cloman	Ky.
College, Trenton	D.C.	B.S. 1948, Muhlenberg College	N.Y.
Goodman, David Louis	N.Y.	Gorewitz, Lillian	
Goodman, Leo Andrew		Gorman, Anna Jean	Ala.
Goodman, Sanford Gerald		Gorman, Lawrence Daniel	Conn.
A.B. 1948, The George Washington		Gormley, Robert Joseph	D.C.
University	Md.	A.B. 1947, Michigan State College	Neb.
Goodman, Lyman Evans, Jr.	D.C.	Gorschman, Marilyn	
Goodman, Charles Lemfest	Vt.	Gorski, Eugene Stanley	
Goodman, Arlene Harriett	Md.	Goss, Lydia Marie	
Goodman, Alan	Va.	Gotobed, Kenneth Samuel	Va.
Goodell, Neil Wylie	Okla.	A.B. 1951, The George Washington	
Goodson, Luke Barrett		University	
B.S. A.B. 1947, University of	Va.	Gottlieb, Marvin Irving	
Oklahoma	D.C.	A.B. 1947, New York University	D.C.
Goodson, William Neal	Va.	M.S. 1949, The George Washington	
Goodtown, Dorothy Elizabeth		University	
Goodwin, Gretchen	D.C.	Gottsch, Marie Helene	Green.
Goodwin, Joseph Daniel	D.C.	A.B. in Govt. 1950, The George	D.C.
Goodwin, Paul Russell	Md.	Washington University	
B.S. 1931, University of Maine	N.Y.	Goudes, Elena	Va.
Goodwin, Robert William	D.C.	Gouge, Jacqueline	
Goold, Louise Stewart		B.S. 1948, University of Maryland	
A.B. 1947, The George Washington	Ala.	Gouge, Susan Cornelia Jones	Miss.
University	D.C.	B.S. 1948, The George Washington	Miss.
Goolishy, Mina Elizabeth		University	
Goolishy, Walter Edwin	N.Y.	Gould, George Marvin	D.C.
Goray, Stanley Joseph	D.C.	Gould, Joseph Charles	Wash.
Gorbea, Peter Maria	D.C.	Gould, Stanley Benton	
Gorczyca, Janina Maria	D.C.	B.S. 1949, Haverford College	
Gordanier, John Wedgewood	Wash.	Gould, Warren	
B.S. in C.E. 1932, Washington State		Gould, William Raymond	Ala.
College		B.S. in C.E. 1941, University of	
M.S. in C.E. 1939, University of		Wyoming	
Colorado	D.C.	Goulden, Paul Vincent	Mass.
Gordy, Charles Allen	Va.	B.S. in Ed. 1936, Mount St. Mary's	D.C.
Gordon, Albert		College	Pa.
B.M.E. 1944, College of the City of	Minn.	Goulett, Barbara Joan	Pa.
New York	Va.	Goulet, Hugh Wayne	
Gordon, Angela Lucia		Gowan, Colin M.	
Gordon, Coleman		Gowdy, Herbert Eugene	
B.S. 1949, Georgetown University	Va.	Gower, Ian McLaren	
Gordon, Doris Hecht		Gownley, Hugh Joseph	
Gordon, Ellen Iris	D.C.	B.S. 1941, University of Scranton	
Gordon, Forest	Md.	Graben, Leon Ross	
Gordon, Fulton Ray, Jr.	Md.	Grabowski, Alice June	
Gordon, Herman Jacob	Ill.	Grad, Eli	
B.S. in E.E. 1948, Purdue University	Fla.	B.D. 1951, Jewish Theological	
Gordon, Howard Leo		Seminary	
B.S. 1948, Georgetown University		A.M. 1951, New York University	
M.S. 1949, The George Washington	Va.	Grady, Edward Charles, Jr.	
University		Grady, Joseph William	
Gordon, James Kirke		Grady, Thomas Burton	
A.B. 1949, The George Washington	Va.	Grat, Katharine Rodney	
University		Grat, Virginia Louise	
Gordon, Kenneth Whooten	Va.	Graft, Paul Mabon, Jr.	
		Graft, Wendell Eugene	

# Students Registered

471

Gagen, Philip Arthur	D.C.	Gray, Robert Alan, Jr.	Pa.
Graham, Herbert McCarty	D.C.	Gray, William Mason	D.C.
Graham, John Vincent	D.C.	Graybill, John Robert	D.C.
A.B. 1949, Georgetown University		Grayson, Samuel C.	Okl.
Graham, Robert May	N.Y.	Greaver, Vernon Elmer	Va.
B.S. 1937, American University		A.B. 1931, The George Washington University	
Graham, Walter James	D.C.	Greaves, Thomas Francis	Va.
B.E. 1945, Catholic University of America		A.B. 1934, Occidental College	N.Y.
Graham, William Griffith	D.C.	Greber, Gerald	
B.S. 1946, United States Naval Academy		B.S. 1936, College of the City of New York	Pa.
Graham, William Montrose	Va.	Green, Jacqueline Pauline	
Grain, Robert Victor	Calif.	B.S. 1945, St. Joseph's College	
M.E. 1947, Stevens Institute of Technology		A.M. 1951, The George Washington University	
Gram, Richard Joseph	Va.	Green, Mary Annunziata	Tex.
Gratwick, Paul Philip	N.Y.	Green, Arthur William	Md.
A.B. 1949, Brooklyn College		Green, Audrey	Pa.
Gramann, Robert George	Md.	Green, Betty MacMillan	Va.
Granger, David Allen, Jr.	N.M.	A.B. 1941, Meredith College	
L.B. 1947, University of Texas		Green, Carl Maxwell	Va.
Gram, Mary Jane	D.C.	A.B. 1936, University of Denver	
Grangers, William Alquin	Ala.	Green, Charles Edward, Jr.	Va.
B.E. 1947, Georgia Institute of Technology		Green, Clark Ray	Va.
Grantham, Marilyn Ann	Conn.	Green, Edward Harrison	D.C.
Gratka, Robert Eugene	Md.	B.S. in P.E. 1951, The George Washington University	
A.B. 1947, University of New Mexico	Mass.	Green, Fred Caldwell	S.C.
Grant, David Franklin		Green, George Hamilton	D.C.
B.S. 1952, University of Vermont		B.S. in Ed. 1949, Temple University	
Grant, Leon Marcellus	Md.	Green, Gerald	Pa.
Grant, Pauline Murray	Va.	Green, Gloria Fenne	D.C.
B.S. 1942, Loyola University	D.C.	A.B. 1951, The George Washington University	
Graville, John Matthew	Md.	Green, Harry Brown	N.C.
B.S. 1952, Cornell University	Pa.	A.B. 1941, The George Washington University	
Grasser, Emil Ernest, Jr.	N.J.	Green, Jack Allen	D.C.
Grasso, Michael	Md.	Green, Lucie Westersheid	Va.
B.S. 1946, Bucknell University		A.B. in Ed. 1944, Arizona State College of Teachers	
Grathouse, Virginia Louise	D.C.	Green, Joseph John	Md.
A.B. 1951, The George Washington University	Vt.	B.S. 1950, Georgetown University	
Grave, Charlotte Frances	D.C.	Green, Kenley Hobert	W.Va.
A.B. 1948, Norwich University		Green, L. Jean Jean	D.C.
Graves, Arthur Leslie	D.C.	Green, Mabel Herman	D.C.
A.B. 1948, Norwich University	N.Y.	Green, Margaret Isabel	Mass.
Graves, Joseph Basil	N.Y.	B.S. in Ed. 1948, Massachusetts State Teachers College, Bridgewater	
Graves, Paul Franklin	Va.	Green, Maurine Irving	N.Y.
A.B. 1948, Hunter College		Green, Norman	N.Y.
Graves, Walter Albert	D.C.	Green, Philip Lee	Va.
A.B. 1941, A.M. 1942, Syracuse University		Green, Ronald Denton	Va.
Gratette, Marian Maxine	Va.	Green, Robert Abraham	Md.
A.B. 1949, University of Iowa		A.B. 1942, Clark University	
Gratton, Dwight Lee	D.C.	B.S.E. 1948, University of Michigan	
A.B. in Law 1948, The George Washington University		Green, Robert Hansen	Utah
Gray, Melvin A.	D.C.	Green, Robert Lee	D.C.
A.B. 1947, The George Washington University		Green, Robert William	D.C.
Gray, Beatrice Martin	D.C.	Green, Samuel	D.C.
Gray, Burton Charles	W.Va.	A.B. 1948, L.B. 1950, The George Washington University	
Gray, Lee, Orley	Tex.	Green, Stanley Keith	Va.
B.E. 1949, Eastern Illinois State Teachers College		Green, William Charles	Md.
Gray, John Alexander	D.C.	M.C.E. 1949, Rensselaer Polytechnic Institute	
A.B. 1951, University of Houston		Green, William Oliver, Jr.	D.C.
Gray, John Armstrong	Md.	A.B. 1949, The George Washington University	
Gray, Lawrence James	Va.	Greenberg, Aubrey I.	Ill.
Gray, Leona Louise	Ind.	B.S. in C.E. 1947, Northwestern University	
Gray, Norman Hamblin	Va.		

Greenberg, Bernard A.B. 1948, University of Massachusetts	Mass.	Gregory, Thomas A.B. 1949, New York University	N.Y.
Greenberg, David Leonard	Mass.	Greiner, Edwin	Va.
Greenberg, Irving B.S. 1940, New York University	Md.	B.S. 1949, College of the City of New York	Ill. Mont.
Greenberg, Miriam Naomi	Pa.	Greisman, Sol M.	N.H.
Greene, Frank Philip	D.C.	Greennon, Margaret A. Ed.B. 1944, Duquesne University	N.Y. Md.
Greene, Frederick Theodore, Jr.	D.C.	Grenon, Donald Aime	
Greene, Gary Edward	Md.	Grescoviak, Walter James	
Greene, Harold Herman	Va.	Gresser, Evangeline Wilson A.B. 1950, The George Washington University	Va.
Greene, Harris Carl B.S. 1943, Boston University	Va.	Greville, Thomas Nall Eden A.B. 1950, University of the South	Va.
Greene, Katherine Virginia A.B. 1947, Eastern Nazarene College		A.M. 1952, Ph.D. 1955, University of Michigan	D.C.
A.M. 1948, The George Washington University	D.C.	Grey, Leo	
Greene, Nina Eugenia B.S. 1941, Catholic University of America	Va.	Grey, William Jackson B.S. 1949, University of Maryland	W.Va. Pa.
Greene, Robert Ellis	Va.	Gribben, Robert Edmund	
Greene, Samuel Lowell A.B. 1908, Indiana University	N.Y.	Griel, John Brubaker B.S. 1948, Franklin and Marshall College	Md. N.C.
Greene, Walter Scott III B.S. 1952, Syracuse University	N.Y.	Griffee, Robert William	
Greene, Walter Scott IV	Vt.	Griffee, Virginia Walters	
Greener, Richard L. A.B. 1908, University of Tennessee	N.Y.	Griffin, Alfred Wilson, Jr. A.B. 1951, University of North Carolina	Va.
Greenfield, Julius William	D.C.	Griffin, Donald Tallmadge A.B. 1928, Cornell University	Va. Mich.
Greenhalge, Frederic Thomas A.B. 1945, Harvard University	R.I.	Griffin, James Arthur	Va.
Greenhalgh, Thomas Bancroft	Mass.	Griffin, James Ellsworth	Md.
Greenhood, Mary Louise	N.Y.	Griffin, London Larkin	Pa.
Greenhouse, Samuel W. B.S. 1958, College of the City of New York	D.C.	Griffin, Mary Patricia	D.C.
Greenland, Alice Louise	D.C.	Griffin, Robert Julian	N.Y.
Greenman, Maurice Morton B.S. in Ed. 1948, Wilson Teachers College	D.C.	Griffin, William Joseph	
Greenslade, John Wills	D.C.	Griffin, Willard Earl A.B. in Govt. 1950, The George Washington University	Md.
Greenson, Irving Leonard B.S. in B.A. 1951, University of North Carolina	Va.	Griffith, Alice Mary A.B. 1942, Madison College	D.C. Pa. Va.
Greenstreet, Stewart Wilmore	D.C.	Griffith, Beattie Mae	Vt.
Greenville, George Walker	Md.	Griffith, Elizabeth Jane	
Greenway, Thomas Alfred	Va.	Griffith, Lera Evelyn	N.Y.
Greenwood, Gayle Marianne	D.C.	Griffith, Roger Marcellus A.B. 1941, Middlebury College	Md.
Greenwood, Nancy Lee	Va.	Griffith, Thomas Benjamin	
Greenwood, Thurman Bodeau	Okla.	Griffiths, Frederic Byron	
Greenwald, Judah A.B. in Govt. 1950, The George Washington University	D.C.	Griffiths, Grant B. A.B. 1947, Drexell Institute of Technology	Pa.
Greer, Harry Hugh, Jr. B.S. 1944, United States Naval Academy	Va.	Griffiths, William Frederick A.B. in Govt. 1951, The George Washington University	Va.
Greer, Kenneth Edmiston B.S. 1949, Michigan State College	D.C.	Griffiths, Joseph Lewis B.S. 1941, Northwestern State College	Okla. Va. Pa.
Greer, Richard I.	Okla.	Griffiths, Muriel Elaine	D.C.
Greer, Thomas Jefferson, Jr. B.S. in Eng. 1950, The George Washington University	D.C.	Grise, Samuel Walton	Va.
Grepp, George Alexander A.B. 1950, Pennsylvania State College	Pa.	Grosby, James Robert	Va.
Greer, Howard Raymond A.B. 1927, Hendrix College	Va.	Grimes, Betty A.	Calif.
Gregg, John Gerald B.S. 1953, J.D. 1956, New York University	N.Y.	Grimes, James Foster	
Gregory, Luther Weston B.S. in E.E. 1950, Texas Agricultural and Mechanical College	Md.	Grimes, John Francis	Pa.
I.L.B. 1900, University of Maryland	Va.	Grimm, Edward Elias B.S. 1941, United States Naval Academy	Okla. Md.
Gregory, Ralph Ernest		Grimm, Florence Irene	Okla.
		Grimm, Jack Rodda	
		Grimm, Kenneth Francis	
		Grimm, Mary Ann A.B. 1946, College of Wooster	
		Grimm, Mary Ruth	



# Students Registered

473

Grinnell, John Robert B.S. in P.E. 1950, The George Washington University	Va.	Guenther, Louis Charles A.B. 1934, Southwestern College	Va
Gripman, Ray Burke A.B. 1943, University of Michigan	N.J.	A.M. 1938, University of Pittsburgh	
Grisamore, Nelson Thomas B.S. 1948, M.S. 1950, University of Illinois	Md.	Guenther, Loretta Barbara Guerra, Serafin Lawrence	Va Mass
Graham, Ethel Marguerite A.B. 1942, Colgate University	Colo.	Guggenheim, Marjorie Gibson	D.C.
Griswold, Lyman William, Jr. A.B. 1946, University of Alabama	Mass.	Guild, Samuel Marston	Va.
Griswold, Victoria Strauss A.B. 1946, University of Alabama		Guller, Debbie Ruth	Fla.
Grob, Victor Edward B.S. in E.E. 1944, Rutgers University	Va.	Guillen, Luis Ernesto J.D. 1945, El Salvador University	D.C.
Grobman, William B.S. in C.E. 1943, Georgia Institute of Technology	D.C.	Guinan, Warren Alonzo A.B. 1943, University of Nebraska	Nebr.
Grosky, James Wilbur A.B. 1946, Oberlin College	N.J.	Gulbrandsen, Heien Reid A.B. 1938, The George Washington University	D.C.
Groseclock, Milton Vanleer A.B. 1946, Oberlin College	D.C.	Gulick, Richard Ivan B.S. 1945, United States Naval Academy	Md
Grosman, Gilbert Neale Groom, Audrey Ann B.S. 1946, Miami University	Md.	Gulko, Arnold George B.Ch.E. 1947, New York University	Va
Grooms, Jeanette H. Gron, Kathryn Jean Gron, Herbert Samuel	Va. D.C. D.C.	Gulko, Marcia Geiger A.B. 1948, A.M. 1949, Hunter College	Va
Gron, Phil Gron, Robert Victor A.B. 1946, University of Tampa	Va. D.C. D.C.	Gullick, Jeanette Helen A.B. 1951, University of Wisconsin	Wis
Gross, Sidney Ralph A.B. 1946, New York University	D.C. Pa. D.C.	Gultz, Harold A.B. 1947, New York University	Md
Grossman, Harold A. A.B. 1946, New York University	D.C. N.Y.	Gunsberg, Vivian Reiersgaard Gunn, Dorothy Claire	Mass Ohio
Grove, Ince Evelyn Grove, Albert Joseph A.B. 1951, The George Washington University	N.Y. D.C. D.C.	Gunn, Frederick Allen Gunselman, Mervin Dwight B.S. in M.E. 1943, Missouri School of Mines	Va Pa
Grove, Gerald Richard A.B. 1951, The George Washington University	Va.	Gunther, John Joseph A.B. 1947, University of Kansas	Md
Grove, Wanda L. A.B. in Ed. 1951, The George Washington University	Ky. D.C.	Gurley, Amanda Louise Gurney, Natalie A.M. 1951, Johns Hopkins University	Ala England
Gruhl, Diana Stutler A.B. in Ed. 1951, The George Washington University		Gurson, Anne Ruth Gustafson, Melissorne Gustaf	Pa Va
Gruhl, Eli A.B. 1950, I.L.B. 1950, I.L.M. 1949, The George Washington University		Gustafson, Melissorne Gustaf A.B. 1948, Augustana College A.M. in I.L. 1950, The George Washington University	
Gruhl, Kenneth LeRoy B.S. 1949, M.S. 1951, Purdue University	Nev.	Guterman, Herman H. A.B. 1942, University of Scranton	Pa
Gruhl, Rosemary Nottingham B.S. 1947, Purdue University	Md.	Guthrie, Lpton Keller Guthrie, Jane Ann	D.C. D.C.
Gruhl, Albert John Gruhl, Conrad, Jr. B.C.E. 1948, College of the City of New York	Ind. Pa. Md.	Guthrie, William Joseph, Jr. Gutt, Robert Leonard Guy, Herbert Smith, Jr. A.B. 1949, University of Florida A.M. 1950, University of Michigan	Mass N.J. Fla
Gruhl, Russell Carl B.S. 1948, Johns Hopkins University	Fla. D.C.	Guy, John Andrew A.B. 1928, A.M. 1940, Columbia University J.D. 1941, New York University	D.C.
Gruhl, Robert Lockwood Ph.D. 1948, Yale University	D.C.	Guz, John Philip Guz, Joyce A. Guzal, Mary Ann	D.C. D.C. D.C.
Gruhl, Donald Robert B.S. in Ed. 1950, Wilson Teachers College	N.Y.	Guzman, Marguerite Louise Gwathmey, Owen A.B. 1940, University of Richmond M.D. 1945, Medical College of Virginia	Va
Gruhl, Barbara Ann B.S. 1948, Cornell University	D.C. D.C. D.C.		
		Haack, Clifford William Haag, Carolyn M. Haapanen, Ethel Phyllis Haas, Dana Marie Haas, Everett Leo	Va D.C. Mass D.C. D.C.

Habecker, Thomas Benjamin		Md.	Haithecock, Maynard Kitchin	
B.S. in E.E. 1946, Massachusetts			B.S. in P.E. 1942, The George	
Institute of Technology			Washington University	
Haber, William Frederick	D.C.		Hakim, Theodore William	Czechoslovakia
Haherman, David Ivadore	D.C.		Hakšková, Jirina	
Hack, Jean Bernice	Pa.		Halbert, Jessie Dawn	
Hackman, Lillian	D.C.		Hale, Frank Daniel	
Hackman, Robert Joseph	D.C.		Hale, Lester Tammert	
Hackney, Charles William, Jr.	N.C.		Halebrin, Garabed Newton	
A.B. in Govt. 1951, The George			Haley, Musa	
Washington University			A.B. 1951, Temple University	
Hackx, Edward	W.Va.		Haley, Herbert Otis	
A.B. 1949, A.M. 1950, The George			Hales, Louis Albin	
Washington University			Haley, Minnie Margaret	
Haddox, Earl Blaine	W.Va.		Haley, Violet Lowry	
B.S. 1950, West Virginia University			Halish, Walter George	
Haddox, Dallas Deryl	Va.		A.B. in Govt. 1949, The George	
Haden, Benjamin	Va.		Washington University	
A.B. 1947, University of Texas			Hall, Allan	
L.L.B. 1949, Washington and Lee			A.B. 1949, The George Washington	
University			University	
Hadley, Diana Sanford	Pa.		Hall, Anna Campbell	
Hadley, Harry Irving	Wis.		Hall, Charles Jewell	
A.B. 1949, Superior State College			Hall, Charles Wilson	
A.M. 1951, University of Minnesota			B.S. 1950, University of North	
Hadley, Herschel Nixon	Wash.		Carolina	
A.P. 1951, Whisman College			Hall, David Alan	
Hafley, Richard Allen	D.C.		Hall, David Kinsley	
Hahn, Frank Albert	Md.		A.B. 1951, Dartmouth College	
Haeusel, Helen	Va.		Hall, Grace Cloughton	
A.B. 1949, Rutgers University			A.B. in Ed. 1953, A.M. in Ed. 1954	
Ph.D. 1952, University of Wisconsin			The George Washington University	
Hafner, Alvin Allison	Va.		Hall, James Ray	
B.S. 1945, United States Naval			B.S. 1945, West Virginia University	
Academy			Hall, James Raymond	
Haff, Theodore Germond	Md.		Hall, Julianne	
B.S. 1949, United States Naval			Hall, Lou Ann	
Academy			Hall, Marguerite Hobbs	
Haffer, Hilda Thompson	D.C.		Hall, Marion V.	
B.S. 1958, Wilson Teachers College			Hall, Mary Josephine	
Hagan, Florence Jean	N.I.		Hall, Nathan Gray	
Haglund, Robert Lee	Md.		Hall, Patricia Ruth	
Hagman, Charlotte Savdahl	Iowa		Hall, William Henderson	
A.B. 1950, Vassar College			A.B. in Govt. 1952, The George	
A.M. 1958, Radcliffe College			Washington University	
Hagen, Jeanne Powell	N.D.		Halla, Ralph Warren	
A.B. 1950, Stanford University			B.S. in F.S. 1950, Georgetown	
Hagen, William August, Jr.	Ohio		University	
A.B. 1948, Hiram College			Halla, Walter Robert	
Hagerty, George A. I.	N.Y.		Hallberg, Edwin Harold, Jr.	
Hagman, Gloria Lane	Va.		Hallberg, Ernest Van H.	
Hagman, Mary Ann	D.C.		A.B. 1942, University of Florida	
Hagman, Thomas George	Va.		L.L.B. 1950, The George Washington	
Hagman, John Vincent, Jr.	Va.		University	
Hagman, Robert Lee	D.C.		Hallberg, Frederick Carl	
Hahn, Alfred Dennis	Ohio		Hall, Ev. Eva Bellinger	
A.B. 1947, Central State College,			A.B. 1949, Glenville State Teachers	
Oklahoma			College	
Hagman, Louis	R.I.		Hallman, Terence Griffin	
Hahn, David Boston	D.C.		B.S. in Ed. 1950, University of	
Hahn, Fred Marion	Ill.		Florida	
B.S. 1950, Northwestern University			Hallmark, Nelson Thane	
Hahn, Jacob Louis	Pa.		Hallmark, Frederick Harold	
Hahn, Amelia K. R.	D.C.		Hallmark, Norman Jerome	
B.S. 1950, Johns Hopkins University			Hallow, Iva	
Hahn, James Robert	Tenn.		Hallow, Joseph	
Hahn, Donald Allen	Va.		Hallow, Mary	
Hahn, Alan Paul	D.C.		Halsperin, Murray	
Hahn, Don David	Pa.		Halsperin, Nathan Andrei	
Hahn, Kenneth Franklin	W.Va.		Halt, Joseph Leo	
Hahn, Ada Louise	Va.		Haltman, Charles Waverly	
Hahn, Nancy Jean	D.C.		Hamm, Henry Frederick	
Halt, Maurice Eberedge	S.C.		Ph.D. 1946, University of Wisconsin	

# Students Registered

475

Hamarian, Reuben			
Hamblen, Dana Harmon			
A.B. in Govt. 1949, The George Washington University			
Hamed, Rockford Norris			
Hamer, Henry			
Hameroff, Gerald			
A.B. 1951 Hunter College			
Hames, Donald Knox			
B.S. 1949, University of North Carolina			
Hamel, Robert			
B.S. 1950, University of Ohio			
Hamilton, Anna Braithwaite			
Hamilton, Edwin Earl			
B.E.E. 1950, The George Washington University			
Hamilton, Elizabeth Terry			
Hamilton, Gayle Key			
A.B. 1949, Southern Methodist University			
Hamilton, Howard Pinner			
Hammon, Margaret Lorraine			
A.M. 1949, Columbia University			
Hamilton, Maxine Taylor			
A.B. 1947, Allegheny College			
Hanson, Peter			
Hanson, Beatrice Mae			
Hanson, Albert Vance			
Hanson, Charles Sherman			
A.B. in Govt. 1946, A.M. in Govt. 1947, The George Washington University			
Hansen, Helen Vera			
B.S. 1949, Illinois Institute of Technology			
Hammer, Gerald William			
A.B. 1950, Ball State Teachers College			
Hammerman, Murray Fredric			
B.S. 1951, University of Michigan			
Hammerstone, Mark Leo			
Hammett, John Charles			
A.B. in Govt. 1948, The George Washington University			
Hammett, Thomas Francis			
A.B. 1948, University of Rochester			
Hammond, Kenneth Fabian			
A.B. 1951, The George Washington University			
Hammond, Mary Ewing			
B.S. 1949, University of Georgia			
Hammond, Thomas Milton			
B.S. 1949, University of Pittsburgh			
Hamon, Beverly Jean Howser			
Hampton, William			
A.B. 1952, Baylor University			
Hampton, Robert Belmont			
B.A. 1948, University of London			
Hankins, Lillian			
Hanks, Carolyn Elizabeth			
Hanks, James Lamar			
A.B. 1948, Hampden-Sydney College			
Hanks, Nell			
B.S. 1950, Brown University			
Hancock, Virginia Chilton			
Hancock, Walter Hammer, Jr.			
A.B. 1951, University of Colorado			
Hancock, William A			
Hand, Shirley Elizabeth	D.C.		
Handley, James Richard	Tenn.		
Handy, Doris Elizabeth			D.C.
Hanes, Melvin Edward			Md.
Haney, Alice Rose			D.C.
Haney, Earle, Jr.			D.C.
Haney, Robert Zane			Pa.
Hanken, Raymond George			Va.
B.S. in P.E. 1947, The George Washington University			
Hanley, Charles Campbell			N.Y.
Hanley, James Richard, Jr.			Mass.
Hanson, Anne Katherine			Mo.
Hanner, Frank Joseph			N.Y.
B.S. 1948, New York University			
A.M. 1949, Columbia University			
Hanna, George Edward			Va.
Hannaford, Jerome Bruce			Wash.
Hannan, William Everett, Jr.			Va.
A.B. 1949, Dartmouth College			
Hanneman, Ralph M.			Nebr.
Hanning, Lyman Miller			D.C.
Hanna, Willie Louella			N.C.
Hanovega, Charlotte Louise			N.Y.
Hansbarger, William Henry			Va.
A.B. 1947, University of Maryland			
Hansel, Roger Elmer			D.C.
Hansen, Audrey Clara			Minn.
B.S. in Ed. 1949, Minnesota State Teachers College, Winona			
Hansen, Dorothy Ann			Vt.
Hansen, Melvin Robert			Nebr.
Hansen, Orval Howard			Idaho
A.B. 1950, University of Idaho			
Hansen, Richard Edward			D.C.
Hansen, Richard Williams			D.C.
Hansen, Walter Daniel			D.C.
A.B. 1950, The George Washington University			
Hanshaw, Garner Claudine			D.C.
Hanson, Barbara Elizabeth			D.C.
Hanson, Jean Lavonne			Wis.
A.B. 1950, The George Washington University			
Hanson, Palmer Oliver, Jr.			Minn.
B.S. 1950, University of Minnesota			
Hanson, Robert Austin			Maine
Hanson, William Bert			Md.
B.C.E. 1944, M.S. 1949, University of Minnesota			
Hanyok, Andrew			Pa.
Hanyok, Francis			Pa.
Hanyok, Joseph			Md.
Hanyok, Paul			Pa.
Hanyok, Stephen			Pa.
Harahan, Maureen Patricia			D.C.
Haras, Helen Gray			Ala.
Harasovsky, William			D.C.
Harless, Evelyn Nannette			D.C.
Harless, Charles M. Blanton			D.C.
A.B. 1952, University of Puerto Rico			
Hartless, Robert Lewis			Mo.
Hartwig, Jordan Lee			Va.
Hartwig, John Andrew			Va.
Hardwick, John Webster			Md.
A.B. 1950, University of North Carolina			
Hardy, Richard			Tenn.
B.S. 1944, United States Naval Academy			
Hardy, Ruth Hollingsworth			Okla.
Hase, Ruby Evelyn			N.C.
Harger, David Lockwood			D.C.



Hargrave, Anita Bengel A.B. 1939, Catholic University of America	D.C.	Harris, Forest Klaire B.S. 1949, The George Washington University	Wa.
Hargraves, Philip Clifford	D.C.	Harris, John Warton, Jr. A.B. 1950, University of Wisconsin	Wa. D.C.
Haringer, Albert Michael B.S. 1938, The George Washington University	Va.	Harris, Julian Harris, Martha Jane B.S. 1942, University of Pittsburgh	D.C. Va. D.C.
Harley, Claire A.B. 1949, The George Washington University	Pa.	Harris, Mary A. Harris, Mary Margaret Harris, Melvin Ray Harris, Newton Nolen Harris, Paul Austin A.B. 1949, The George Washington University	Va. Va. Va. Va. Va.
Harman, George Gibson B.S. 1949, Virginia Polytechnic Institute	D.C.	Harris, Robert Dermot Harris, Thomas Gordon B.S. 1940, Lynchburg College	Va. D.C. D.C.
Harman, Robert Emmett B.S. in E.E. 1951, University of Maryland	Md.	Harris, William Clayton, Jr. Harris, William Penn Harrison, Alexander Harrison, Allan Marion B.S. 1937, Oregon State College	Va. Va. D.C. D.C. D.C.
Harmel, Morton William B.S. in Ed. 1943, Wilson Teachers College	Md.	Harrison, Allen Edward Harrison, Allen Hugh, Jr. Harrison, Caroline Reid Harrison, Elbert Earnest B.M. 1942, M.M. 1946, University of Rochester	Va. Va. D.C. D.C. D.C.
Harmer, Donald Stutler Harmon, Ervne Lea Harmon, Frederick Gardner Harnett, Joan Helen Harper, Claudia Nell Harper, Edith Elizabeth A.B. in Ed. 1950, The George Washington University	D.C. Va. D.C. Va. D.C.	Harrison, Elizabeth Toupeau A.B. 1950, The George Washington University	Md. R.I.
Harper, Elizabeth Josephine A.B. in Govt. 1952, The George Washington University	Md.	Harrison, Gordon Francis Ph.B. 1935, Providence College L.L.B. 1947, Georgetown University	D.C. Va. Va.
Harper, Jayne Frances Harper, Jesse B.S. 1940, Rider College	D.C. Va.	Harrison, Hansel Newton, Jr. A.B. 1951, Vanderbilt University	Va. Va.
Harper, William Roscoe Harpine, Arnold Franklin Harpster, Lyndale Roberts B.S. in P.E. 1948, The George Washington University	Va. Md.	Harrison, John Houston, Jr. A.B. 1946, University of Virginia	Va. D.C.
Harrah, Phyllis Anne Hassell, Anne Carol Harrell, Leighton Ernest A.B. 1924, Randolph-Macon College	D.C. D.C. Md.	Harrison, John Millard Harrison, Junius Henry Harrison, Marilyn Jane Harrison, Marion Edwin II A.B. 1951, University of Virginia	D.C. D.C. D.C. D.C.
Hassell, Sammy Louis Harrigan, John Francis B.S. 1941, Tufts College	N.M. Va.	Harrison, Mignonette Eulalie A.B. in Ed. 1951, The George Washington University	Va.
Harrigan, John Thomas Harrill, Nancy Lee Harrington, David Michael A.B. 1950, The George Washington University	N.J. Va. N.J.	Harrison, Orene A.B. 1935, Birmingham Southern College	Va. D.C.
Harrington, Donald Joseph B.S. 1946, University of Michigan L.L.B. 1951, University of Detroit	Mich.	Harrison, Peggy Scott Harrison, Richard Edwin Harrison, Robert Scott A.B. 1951, The George Washington University	Md. D.C. D.C.
Harrington, Doris Elizabeth B.S. 1943, Ithaca College	N.Y.	Harris, George Latham B.S. 1947, United States Naval Academy	Va. Va.
Harrington, Edward Joseph, Jr. B.S. 1945, College of Holy Cross L.L.B. 1949, Catholic University of America	Va.	Harrington, Patricia Jo Harrington, Sam Ross A.B. 1949, West Virginia University	W.Va. D.C. D.C.
Harris, Anne A.B. 1949, Texas College of Arts and Industries	Tex.	Hart, Bobby Jack Hart, Charles William A.B. 1934, A.M. 1935, Catholic University of America	Va. Va. Va.
Harris, Benjamin Thompson Harris, Bernard B.B.A. 1946, College of the City of New York	N.Y.	Hart, Francis Augustine, Jr. B.S. in F.S. 1951, Georgetown University	Md. D.C.
Harris, Bertha Florence Harris, Boyd Edward Harris, Dorothy Hope A.B. 1946, Goucher College	D.C. D.C. D.C.	Hart, Frank Edmond B.S. 1948, University of San Francisco	D.C. D.C.
Harris, Elmore D. B.S. in E.E. 1935, West Virginia University	Pa.	Hart, Gordon Lamar L.L.B. 1940, University of Georgia	Pa. Ga.

# Students Registered

477

Hart, J. Vincent			
Hart, John Thomas			
B.S. 1951, Rutgers University	Mo.	Havens, William Dodge, Jr.	D.C.
Hartleben, Carl III	N.J.	B.S. in P.E. 1950, The George Washington University	
B.S. 1941, Lehigh University	N.J.	Haverkamp, Clarence John	Iowa
Harte, Phyllis Jacqueline		Hawkins, Glenn John	Fla.
Hartford, Jocelyn Stanley	D.C.	B.S. 1947, Georgia Institute of Technology	
A.B. 1951, University of California	Calif.	Hawkins, James Walter	N.J.
Hartke, Ellen Mary	Md.	A.B. 1951, Rutgers University	
Hartley, Hugh Harris	D.C.	Hawkins, Josias Henry, Jr.	D.C.
Hartley, Janet Wilson	D.C.	Hawkins, Martha Eleanor	N.Y.
B.S. 1949, University of Maryland		A.B. 1951, The George Washington University	
M.S. 1951, The George Washington University	Va.	Hawley, Wilbur Wayne	Md.
Hartman, Bruce Reiff	Ill.	B.S. 1949, University of Colorado	
Hartman, Lila Lynn	Md.	Haworth, Marjorie Helen	D.C.
Hartman, William Joseph		A.B. 1942, Mills College	
A.B. 1941, A.M. 1942, State University of Iowa	Mo.	Hawthorne, Betty June	Fla.
Hartmann, William Charles	Va.	A.B. 1951, The George Washington University	
Hartwell, Dewitt T.	Md.	Hawthorne, Charles Byrd	Va.
Hartzer, William David		B.S. in Pharm. 1949, The George Washington University	
A.B. 1948, Central College		Hawthorne, Helen Margaret	Pa.
M.I.A. 1950, Columbia University		Hav, Ruth E.	Mo.
Harvey, Herbert	D.C.	Hav, Sydney William	Mass.
Harvey, Joseph Spencer	Md.	Havcraft, Sara Stelle	Ky.
Harvey, Lule Virginia	Va.	Hawden, James Howard	Md.
Harvey, Robert Nelson		A.B. in Govt. 1950, The George Washington University	
Harvey, William Frank	Va.	Haves, Charles Harold	Va.
Hareventer, Helen Jean	Md.	B.S. 1950, United States Naval Academy	
Hawood, William Robert, Jr.	D.C.	Haves, Cornelius John	Conn.
Hasková, Milica Jelzaveta	N.Y.	A.B. 1950, Yale University	
Haskovick, Thomas Paul		Haves, Edward Matthew, Jr.	Maine
B.S. in F.S. 1950, Georgetown University		A.B. in Govt. 1950, The George Washington University	
Hath, Samuel Lee	Va.	Haves, Elliott Keirwin, Jr.	Md.
Hake, John Reed	D.C.	Haves, James Joseph	Mich.
Haskins, Margaret Varda	Wis.	Haves, Ruth Thelma	W.Va.
B.Com. 1944, A.M. 1946, Fouad I University, Egypt	Fgypt	Haves, Walter Harold, Jr.	Vt.
Hassan, M. Salah Elidin		A.B. 1948, University of Vermont	
Hassell, Edgar Cannon	Tenn.	Havmaker, George Russell, Jr.	Va.
Hatch, Albert Happy	D.C.	Havnam, George Elmer	Ohio
A.B. 1927, University of Pennsylvania	Pa.	B.S. 1951, Case Institute of Technology	
L.L.B. 1931, Temple University		Haynes, Alton Miles	N.C.
L.L.M. 1951, The George Washington University		A.B. 1949, University of North Carolina	
Hatcher, Josephine Benton	Md.	Haynes, Charles Buford	Va.
B.S. 1949, University of Tampa	Fla.	Haynes, Curtis Franklin	Tenn.
Hatchfield, Norman Lee		Haynes, Frances Gore	D.C.
B.S. 1951, University of Chattanooga	Tenn.	Haynes, June Lillian	Va.
Hack, William M. Rae	Ind.	Haynes, Sylvia S.	Va.
Haggen, Gertrude Marian	D.C.	A.B. 1940, Hunter College	
Hager, Jean Elizabeth	Md.	Haynie, Thomas Marsh	Va.
Hager, L. Darlene	Pa.	A.B. 1951, Randolph-Macon College	
B.S. 1948, Pennsylvania State Teachers College, Shippensburg		Hays, Jesse Roland	D.C.
Hagman, Sidney		Hays, Marion Steele	Ark.
B.S. 1949, College of the City of New York	D.C.	A.B. 1948, University of Arkansas	
Hagmann, Howard Jay		Hass, Richard Leland, Sr.	Kans.
A.M. 1942, New York University	N.Y.	Hazeborn, Abraham	D.C.
Hagman, John Henry		A.B. 1949, Brooklyn College	
Hager, Milton Joseph		M.F.S. 1950, University of Maryland	
B.S. in Ed. 1935, Ed.M. 1940, Rutgers University	Pa.	Hazell, Joseph William	Md.
	D.C.	B.S. 1949, Harvard University	
	Md.	A.M. 1951, The George Washington University	
		Harlett, Barbara Ann	D.C.
		Hazzard, Charles Bullock, Jr.	N.Y.
		B.S. in C.E. 1943, Princeton University	
		Head, Robert Vincent	D.C.

Headley, Robert Nelson	Md.	Heffler, Melvin Harold	VA
Healy, Alice Perry	D.C.	B.S. 1949, College of William and Mary	D.C.
Healy, Ann W.	N.Y.	M.S. 1951, The George Washington University	D.C.
Healy, Barbara Ann	D.C.	Hein, John H.	D.C.
Healy, Paul Thomas	W.Va.	Ph.B. 1911, Kenyon College	Pa.
Hean, Harry Warren	Md.	Hein, Rosemary Ruth	Me.
B.S. in Ae.E. 1942, Pennsylvania State College		A.B. 1946, Carleton College	D.C.
Heaps, Patricia L.	D.C.	Heine, Orville Robert	W.Va.
Heard, Townsend	D.C.	Heintz, Robert Alfred	Me.
Hearn, Don Bossy	La.	Heinzeling, Marjorie Lillian	
Hearn, Richard Lee	Md.	B.S. 1929, Southeastern State College	
Hearn, Roderic Willson	Idaho	Heishman, Jennie Rose, Jr.	
A.B. 1939, University of Idaho		Heising, John Charles	D.C.
Hearon, James Creighton	Ky.	B.S. in E.E. 1947, Massachusetts Institute of Technology	D.C.
A.B. 1930, Georgetown College		Heitmuller, Robert Roeder	D.C.
Heart, Margaret Josephine	D.C.	Held, John Carl	Me.
Heaster, Gilberta Ellen	W.Va.	Helfenstein, Elsa Blanca	N.Y.
Heath, Annabelle Lee	Kans.	Hellrich, Kenneth Edward	
Heath, Daniel William, Jr.	Va.	Helleman, Leo	Me.
Heatherly, James Clark	Va.	B.E.E. 1946, College of the City of New York	Me.
A.B. 1938, University of Tennessee		Heller, John Michael	
Heaton, Elizabeth Rounceville	Va.	Heller, Norman Harold	D.C.
Heazlit, Theodore Willard	Md.	A.B. in Govt. 1940, The George Washington University	Pa.
Hebert, Paul Edmond	Mass.	Hellerman, Eli	Pa.
A.B. 1939, The George Washington University		Hellmuth, James Grant	
Hecht, Irving Mark	Md.	B.E. 1948, Yale University	Pa.
B.B.A. 1947, College of the City of New York		Hellmuth, Raymond Louis	
Hecht, Joyce Edna	D.C.	B.S. 1951, Mount St. Mary's College	
Hecht, Norman Francis	D.C.	Hellstrom, Ralph Edwin	Me.
Heck, Albert Paul Herman	Md.	A.B. 1945, Augustana College and Theological Seminary	N.Y.
Heck, John Henry	Pa.	Helmer, Cyrus Robert	Pa.
A.B. 1941, Pennsylvania State College		Helmenshaw, Richard Gerard	
A.M. in Govt. 1951, The George Washington University		Helson, Henry Stephen	Pa.
Hekert, Jackson Shaffer	Md.	A.B. 1937, Wabash College	Pa.
B.S. 1942, Pennsylvania State College		Helson, Lorraine Marie	
Hekman, Anne Harrison	D.C.	A.B. 1945, Marshall College	
A.B. 1949, Brown University		Hellsley, Myra Lee	Pa.
Hekman, Francis Austin	Pa.	A.B. 1947, University of Kentucky	
B.S. 1940, Lebanon Valley College		Helwest, Chris Elwaine	
Helges, Harold Edmudge	D.C.	Helzer, Manual Louis	Pa.
Hedges, Richard Henry	Md.	A.B. in Govt. 1950, The George Washington University	
B.S. 1950, The George Washington University		Hemlock, Michael	Mass.
Hedger, William Elbridge	Mass.	B.S. 1951, Pennsylvania State Teachers College, Bloomsburg	W.Va.
B.S. 1951, Tufts College		Hemmer, Joan Harry	Pa.
Hedlund, Mark Wayne	Va.	Hemmings, John Buster	Pa.
A.B. 1950, A.M. 1951, University of Minnesota		B.S. 1947, University of Virginia	
Hedman, Jeanette Velma	D.C.	Hempie, William Frank	N.Y.
A.B. 1951, College of William and Mary		Henderson, Lawrence Raymond	
Hedrick, Albert Louis	D.C.	Henderson, David S.	N.Y.
Hedrick, Betty Maue	Va.	Henderson, Edna May	
Hedrick, Kenneth Arthur	Minn.	B.S. 1944, Western Carolina Teachers College	Pa.
A.B. 1946, University of Minnesota		Henderson, Frances Anne	W.Va.
Heelen, John Edward	D.C.	A.B. 1947, Boston College	
Hedman, Charles Deyvall, Jr.	D.C.	Henderson, Frederick James	Pa.
Hedrick, Daniel John	Mass.	Henderson, Lyle Emerson	
Hege, John Henry	Va.	B.S. 1945, Northwestern University	Pa.
A.B. 1948, Gettysburg College		Henderson, Ivan	
M.D. 1943, Hahnemann Medical College and Hospital		Henderson, Margaret Monroe	Pa.
Hege, Hilda Hazel	D.C.	B.B.A. 1942, University of Texas	
Hege, Francis Jerome	Va.	Henderson, Phyllis May	
A.B. 1929, Catawba College		Henderson, Russell Stewart	
Hehender, LeRoy Kenneth	Mo.	Henderson, Stelman Dewart	
B.S. 1941, United States Naval Academy		B.S. 1947, Morehead State College	
Heintz, Dorothy Elinor	D.C.	A.M. 1940, University of Kentucky	
Heiser, George Charles, Jr.	Md.	Henderson, William Harold, Jr.	
B.S. 1950, University of Maryland		B.S. 1949, The Citadel	



# Students Registered

479

Hendlin, Philip	N.Y.	Herman, Hazel	Va.
Hendrick, Barbara Diane	Va.	A.B. 1937 Hunter College	
Hendrick, Earl George, Jr.	Va.	Herman, Monte Arnold	D.C.
Hendrix, Dorinda Missouri	Ala.	Hermann, Russell Rowden	Alaska
Hendrix, Martin Sue	Miss.	A.B. 1934 Washington State College	
Hendrix, Paul Max	Ill.	Hernandez, Mary Amelia Severs	N.C.
A.B. 1935 The George Washington University		A.B. 1939 Salem College	
Hendry, Barbara Potter	Md.	A.M. 1948 The George Washington University	
Henchry, Alfred Garrett	D.C.	Hero, Alfred Olivier	D.C.
A.B. in Ed. 1946, A.M. in Ed. 1951, The George Washington University		B.S. 1945, United States Military Academy	
Heneget, Harold Hubert	Md.	A.M. 1950, Vanderbilt University	Pa.
B.S. 1947, Southwest Missouri State College		Hess, Hargis Martha	Mass.
A.M. 1948, University of Missouri	D.C.	Hessing, Donald Dewar	
Henes, George Thomas		A.B. in Govt. 1949, The George Washington University	
A.B. 1943, The George Washington University	D.C.	Herrmann, Marlene Jane	Mich.
Henes, Thomas Joseph	D.C.	Herrmann, William	D.C.
A.B. 1945, The George Washington University		Hessman, William Leo	D.C.
Henes, Lloyd Allen	Mich.	Henson, Frank, Jr.	Me.
B.S. in F.E. 1950, University of Michigan		Hess, Mary Ellen	Pa.
Hess, Carl Leroy, Jr.	Ohio	Hersberger, John G.	D.C.
B.S. 1945, Northwestern University		B.S. 1943, Canterbury College	
M.B.A. 1947, Harvard University		M.S. 1949, Northwestern University	
Hennes, Charles Edward		Hershfield, David Michael	D.C.
Hennessey, John William	Va.	A.B. 1948, University of California at Los Angeles	
A.B. in Govt. 1951, The George Washington University	Conn.	Hertz, Jerome Samuel	Mass.
Hennessey, Gerald Curt		Hertzberg, Ruth S.	D.C.
B.S. 1948, University of Maryland	Va.	Hessamine, Charles Edwin	Va.
Hennings, Helen Mary		Hewson, Leslie R.	Md.
A.B. in Govt. 1950, The George Washington University	D.C.	B.S. 1942, United States Naval Academy	
B.S. 1949, United States Merchant Marine Academy	W.Va.	Hess, Charlotte Rebecca	D.C.
Hess, James F.	Maine	B.S. 1945, Temple University	
A.B. 1945, Bowdoin College		A.B. 1948, The George Washington University	
Hess, Norman Holden	D.C.	Hess, Frank Gold	Pa.
Hess, Thomas Robert, Jr.	D.C.	Hess, George Frank	D.C.
Hess, Ruth Anne	D.C.	B.S. in Educ. 1944, The George Washington University	
A.B. 1946, University of Maryland		Hess, Louise Morton	D.C.
Hessman, Barbara Harby	Md.	B.S. 1947, United States Naval Academy	Pa.
A.B. 1948, The George Washington University		Hess, William Perry	D.C.
Hess, Lila Jean	D.C.	Hess, William, Edw.	Denmark
Hess, Robert Harvey	Va.	Hessington, Travis Monroe	Tex.
Hess, Lawrence Kerr	D.C.	B.S. 1944, United States Military Academy	
Hess, Carlton Bruce	D.C.	Hess, Paul Walter	D.C.
Hess, Fred	D.C.	Hess, Franklin Evanchoe	Ga.
Hess, Edwin Lucere	D.C.	Hewett, John Robert	Va.
A.B. in Govt. 1948, The George Washington University	Okla.	Hewett, Norma Jean	Va.
Hess, F. Ray, Jr.	Va.	Hewitt, Clifford Adelbert	Va.
B.S. 1949, University of California Agricultural and Mechanical College	D.C.	Ph.D. 1951, Columbia University	
Hess, Lucian Thayer	D.C.	Hewitt, Lowell Howard	Calif.
B.S. 1946, Western Teachers College		Hewitt, Norman Thayer	D.C.
A.B. 1948, The George Washington University	D.C.	Hewitt, William R. Herman	Pa.
Hess, Robert Van Cortlandt	D.C.	Hewitt, Anna Eliza	Pa.
Hess, John Francis	D.C.	Hewitt, Anthony James Jr.	N.Y.
Hess, Martin Vire	D.C.	A.B. 1948, University of North Carolina	N.C.
A.B. 1949, Johns Hopkins University		Hewwood, Robert Monroe	Wis.
Herman, David Joseph	D.C.	B.S. 1940, University of Wisconsin	
	D.C.	Hewitt, Geneva Marjorie	Va.
	D.C.	Hewitt, Howard Hershel	Va.
	D.C.	Hillman, Lyle Nell	Calif.
	D.C.	Holby, Patricia Ann	Va.
		Holby, William John	D.C.
		Hicks, Charles Robert	

Hicks, Herbert Hollis	Miss.	Hillman, Franklin Powell	
A.B. 1950, Harvard University		A.B. 1916, Emory and Henry College	
Hicks, Horace Edward, Jr.	D.C.	A.M. 1940, The George Washington University	Kan.
Hicks, Lindsey	Va.	Hillmon, Tommie J.	
Hicks, Randall J.	Va.	A.B. 1940, Washburn University	Md.
Hicks, Robert Waverly	Conn.	A.M. 1951, Syracuse University	
Hicks, Virginia Brockman	Va.	Hillock, Donald MacLean	Md.
Hiebert, Laura Franz	D.C.	B.S. 1949, American University	
A.B. 1947, Bethel College		Hilmer, Paul Edward	
Hiebert, Tal Gordon	D.C.	A.B. 1945, Loyola College	
A.B. 1940, University of Kansas		M.S. 1947, Ph.D. 1949, Georgetown University	Md.
Hiemenz, James Glenn	Va.	Hilprecht, Karl William	
Hierholzer, Alexander Drew, Jr.	Va.	Hilabadi, Stephen Bartholf	Va.
A.B. 1950, Roanoke College		A.B. 1951, Lafayette College	
Hiers, Jill	D.C.	Hiltner, John Shadrick	Miss.
Hibbs, Charles Eldon	N.M.	B.S. 1950, Emory and Henry College	D.C.
Hibbs, Grant Warren	D.C.	Hilton, Andrew Carson	D.C.
Hibbs, Lanna Ruth	Va.	Hilton, John Perry	Pa.
A.B. 1950, Our Lady of the Lake College		Himelfarb, Gordon	Md.
Hibby, Philip Dee	Va.	Hincherick, Sophia	
Hudson, Mary Ellen	D.C.	Hinchey, John Joseph	Va.
Huggenbotham, Charles Travis	Md.	M.S. 1948, 1951, Massachusetts Institute of Technology	Va.
Huggenbotham, Arlington Spence	N.J.	Hinck, Peter Henry	D.C.
Huggins, John Reid	Va.	Hine, Frank Brown	N.C.
Huggins, Louis Edward	Ill.	Hine, William B.	
Huggins, Ruth Eleanor	Pa.	Hines, Mary Carolyn	D.C.
Huggins, Thomas Patrick	Ohio	A.B. 1936, University of North Carolina	
Hugginson, Charles Oakley	Va.	Hines, William Millard	
Hugginson, Ella Joan	Va.	B.S. 1946, Middle Tennessee State College	M.
Hugh, Donald R.	W.Va.	Hinners, Barbara Louise	Va.
Hugh, Joe Benton	Fla.	Hinrichs, John Honeycutt, Jr.	
Hugham, Florence Elizabeth	Pa.	Hinze, William	D.C.
Hughsmith, Horace Eugene	D.C.	B.F.F. 1949, The George Washington University	
Hight, Jack	Tex.	Hirahara, Katsumi	N.Y.
B.S. 1948, College of William and Mary		B.S. 1950, University of California	
Hildebrand, Jean	D.C.	Hirschfeld, Kenneth	Pa.
A.B. 1949, Antioch College		Hirschman, Joan Helen	Pa.
Hildebrand, John Raymond	Kans.	Hirschman, Ruth Ellen	
A.B. 1949, University of California		Hitten, John Edward	
Hildreth, Richard	Va.	A.B. 1950, New Mexico College of Agriculture and Mechanic Arts	
A.B. 1951, The George Washington University		Hirth, Robert Barnard	
Hilkert, Fred George	N.Y.	B.S. 1944, Northwestern University	
A.B. 1951, Syracuse University		Hisle, Clinton Montgomery III	
Hill, Betty Jean	Va.	A.B. 1950, Western Maryland College	
Hill, Betty Rushing	Tenn.	Hitchcock, Barbara Singley	
Hill, Dave Harmon	D.C.	A.B. 1941, Barnard College	
Hill, Donald Peck	Va.	Hites, Zebulon Weaver	
B.S. 1946, Davidson College		Hittner, Ralph Vincent	
L.L.B. 1948, L.L.M. 1950, University of Virginia		Hix, Ernest Theodore	
Hill, Elizabeth Lois	Va.	B.M.E. 1949, The George Washington University	
A.B. 1947, Wayne University		Hjalmarson, Dori	
Hill, James Douglas	Va.	B.S. 1953, University of Arizona	
Hill, James Douglas	Ohio	Hubb, Julius George	
B.S. 1948, Ohio State University		A.B. 1929, Gettysburg College	
Hill, Jesse May	Md.	Ed.M. 1949, Johns Hopkins University	
Hill, Marvin Sidney	D.C.	Hlusko, William, Jr.	
Hill, Oliver Strange	Md.	Hogg, Warren George	
Hill, Patricia Ann	Va.	D.V.M. 1947, Cornell University	
Hill, Richard Work	Va.	Hoban, John Charles	
Hill, Suzanne Doane	Va.	B.S. 1948, University of Scranton	
Hill, Thelma Pauline	Ind.	Hobby, Edward Victor	
Hill, Warren C.	D.C.	Hobbs, Herman Hedberg	
Hillebrand, Herbert Walter	D.C.	Hobbs, Joseph Francis	
A.B. 1941, Elmhurst College		Hobbs, Marie Louise	
B.D. 1945, Eden Theological Seminary	D.C.	B.S. 1944, Radford College	
Hillery, Edward Alton	Va.		
Hilliker, Grant Gilbert			
A.B. 1942, University of Wisconsin			

# Students Registered

481

Hobbs, Richard Huntington	D.C.	Holder, Janet May	Md.
Hobbs, Robert William	Va.	Holder, Richard Joseph	Pa.
Hobbs, Thomas Wayne	D.C.	Holderness, Robert B.	Va.
Hobby, George Lafayette	Md.	Holdowsky, Simon	D.C.
Ph.B. 1940, University of Chicago		A.B. 1930, Brooklyn College	
Hobbs, Vincent Nelson	D.C.	Holdsambeck, Sam	Va.
Hobbsmann, Barbara Joan	Md.	Holdt, Arthur Ernst	
Hobrecht, Opal Mae	Kans.	B.S. 1941, United States Naval Academy	
Hoch, George Corley	Va.	Hole, Mary Elizabeth	Wash.
Hochmeier, Ruth	N.Y.	Holeb, Richard Winfield	N.J.
A.B. 1951, Swarthmore College		Holfert, Alfred R.	Utah
Hock, Howard Emmons	N.J.	Holford, Donald Lloyd	Va.
Hodge, Dora Gertrude	Nebr.	A.B. 1940, University of Virginia	
Hodges, Dorothy Ann	Nebr.	Holford, Mildred Anne	Va.
Hodges, Betty Florence	Tenn.	Holgate, Thomas Albert	Vt.
Hodges, Erva Myrl	Ga.	A.B. 1947, Suffolk University	
Hodges, Shirley Rice	Va.	A.M. 1950, Boston College	
Hoeppner, Edmund Charles	Md.	Holladay, Cornelius Allen	Ga.
Hoff, Mary Elizabeth	Md.	B.S. in F.S. 1950, Georgetown University	
B.S. 1927, Arnold College		Holland, Charles Douglas	Canada
Hoffed, Donald Temple University	D.C.	Holland, Harrison Melsher	Wash.
Hoffman, Raymond	Va.	A.B. 1944, University of Washington	
Hoffman, Louanne	Va.	A.M. 1940, Columbia University	
Hoffman, Aldon M.	Ind.	Holland, Martha Jo	D.C.
A.B. 1935, University of Idaho	Ohio	Hollaway, William Howard	Va.
Hoffman, Arthur Daniel	Va.	Hollenbeck, Paul Ernest	D.C.
Hoffman, Dorel Dean		Hollenberg, Richard Alvin	Va.
Hoffman, Eleanor Louise	N.Y.	Holler, Donald Wyatt	Md.
A.B. 1949, Miami University	Md.	Holler, Norbert Philip	N.Y.
Hoffman, Paul	W.Va.	B.S. 1950, College of the City of New York	
Hoffman, Robert Douglas	Minn.	Holliman, William Jelks, Jr.	Va.
Hoffmaster, Edmund Alexander III		Holliman, Blaine Spengler, Jr.	Tex.
A.B. 1930, Shepherd College		LL.B. 1948, The George Washington University	
Hofstad, Richard Joseph	S.D.	Hollingsworth, Farrell	Idaho
B.S. 1949, B.S. in L.S. 1951, University of Minnesota	Md.	B.S. 1940, Utah State Agricultural College	
Hofsteter, Gaylord Jerome		Hollingsworth, James Boetler	Calif.
B.S. 1950, The George Washington University	Md.	Hollis, Charles Jonathan	Ala.
Hogan, Jeanne Wyant		B.S. 1940, University of Alabama	
A.B. 1941, University of North Carolina	Md.	Hollis, Frank	D.C.
Hogan, John Edward		Holla, Helen Louise	D.C.
Hogan, Walter Thomas, Jr.	Md.	Holla, Thelma Elizabeth	Pa.
Hogewill, Wilbur Swanson	Ill.	Holloway, Catherine Jayne	Md.
A.B. 1914, San Jose State College	Va.	Holloway, Floyd L.	La.
A.M. 1940, B.D. 1937, University of Chicago		Holloway, John Howard	Va.
Holbrook, Michael John	N.Y.	Holman, Mary Alma	Tex.
B.C.E. 1951, The George Washington University	Va.	Holme, Justus Mitchell	Md.
Holben, Donald Eugene		B.S. in C.E. 1930, C.E. 1940, University of Pennsylvania	
B.S. 1945, United States Naval Academy	Wyo.	M.S. 1942, Lehigh University	Wash.
Holbrook, Henry Scofield		Holmes, Gerald Peter	N.Y.
Holbrook, Iola Cook	Md.	A.B. 1947, University of Washington	
A.B. 1941, University of Wisconsin	D.C.	Holmes, Paul Roger	
B.S. 1948, Canawha College	N.C.	B.M.E. 1950, Rensselaer Polytechnic Institute	
Holcomb, Cynthia Gould	Ariz.	Holmes, Ralph Albion, Jr.	Va.
A.B. 1951, Stanford University		B.S. 1947, University of Maryland	
Holcomb, Frederick Morse, Jr.	D.C.	LL.B. 1950, University of Virginia	
Holcomb, John Tyler	Calif.	Holmgren, Carol Mae	D.C.
A.B. in Gen. 1946, The George Washington University	Va.	Holmstrom, Joan Priscilla	Mass.
Holzman, Frank Joseph	Pa.	Holmber, Marilyn Fay	D.C.
A.B. 1940, Muhlenberg College		Holmber, Melvin Charles	Va.
Holden, Karlene Mae	Va.	A.B. 1940, The George Washington University	
		Holroyd, Richard Charles	Conn.
		Holst, Arnold	Va.
		A.B. 1951, University of Virginia	
		Holst, Jens Fisker	Minn.
		Holt, Cletis Leon	Okl.



Holt, Elmer Dean	D.C.	Horenstein, Joseph Chaim
Holt, George Paullet	Hawaii	Horgan, Joanne Marie
A.B. 1949, University of Hawaii		A.B. 1947, Radcliffe College
Holt, James Howard	Va.	Horiuchi, Harold Shueo
Holt, Richard Melvin	Wash.	Hortlacher, Thelma Rose
Holtz, Herbert Manuel	D.C.	B.S. 1931, Boston University
A.B. in Govt. 1949, The George Washington University		A.M. 1938, New York University
Holtzman, Marilyn	D.C.	Horn, Carroll Milton
Holup, John Frank	Pa.	Horn, Herbert Oaden
Homer, Mary Elizabeth	Ohio	Horn, Rufus Austin, Jr.
B.S. in Ed. 1950, Kent State University		Horne, Joe Louis
Honabach, Elmer Wilson	Va.	B.S. 1941, United States Coast Guard Academy
Honick, Joseph Joel	Md.	Horne, Philip Scott
Honia, Doris Marcelle	N.Y.	Horneck, George R.
A.B. 1944, Hunter College		A.B. 1943, Lehigh University
Honig, Etienne Appenzeller	D.C.	Horner, George Elliott
Honig, Julius	N.Y.	Horning, Marjorie Anne
B.S. 1949, University of Michigan		Horning, Richard H.
M.S. 1953, University of Illinois		Horning, Ross Charles
Hood, Clifton Randolph	D.C.	A.B. 1948, Augustana College
Hood, James C.	D.C.	Hornsby, Julia M.
M.E. 1951, University of Wisconsin		B.S. 1942, Winthrop College
Hooker, Arnold David	Ark.	Hornstein, Ida Edith
Hopper, Albert Gordon, Jr.	D.C.	B.S. 1949, The George Washington University
Hopper, M. Dale	D.C.	Hornstein, Louis Bruce
Hopper, Mary Lillian	D.C.	Horowitz, Bruce Gordon
Hopper, Walter Malcolm	N.Y.	A.R. 1950, Harvard University
Hopps, Ann Milner	Ill.	Horowitz, Diane
A.B. 1926, Indiana University		Horowitz, Elizabeth Ann
Hoover, Charles Rudolph	Va.	Horowitz, Emanuel
B.E.E. 1951, The George Washington University		B.S. 1948, College of the City of New York
Hoover, James Edward	Ind.	Horowitz, Milton Arthur
B.S. in Ch.E. 1949, M.S. in I.E. 1950, Purdue University		Horrigan, Michael James
Hoover, John Robert	Calif.	Horsburgh, Sarah Jane
Hoover, Mary Clark	Va.	Horsky, Eugene Gregory
A.B. 1946, University of New Mexico		B.S. 1945, R.C.L. 1949, Rensselaer Polytechnic Institute
Hoover, Wallace Archer	Md.	Horsley, Carol Jean
Hupe, Robert Stokes	Va.	Horstman, John Francis
B.S. 1949, United States Merchant Marine Academy		Horton, Richard Edward
A.B. in Govt. 1950, J.D. 1951, The George Washington University		Horvath, Elizabeth Ann
Hopkins, Carl Dewey, Jr.	Pa.	Horvitz, Harold I.
Hopkins, Christine Dorothy	D.C.	Horwitz, Leonard Jay
Hopkins, Nancy	Md.	A.B. 1949, University of Massachusetts
Hopkins, Ralph	Md.	A.M. 1950, University of Pennsylvania
B.S. 1941, M.S. 1952, Tulane University		Hos, Louise Katherine
Hopper, Henry Pearson	D.C.	Hotchius, Eugene III
B.S. in Ed. 1943, M.S. in Ed. 1954, University of Pennsylvania		A.B. 1950, Dartmouth College
Hopper, Richard Neal	Va.	Hoshetsall, E. Emma Lockhart
A.B. 1950, Bridgewater College		Hositz, John Karl
Hopper, Thomas Bradford, Jr.	D.C.	A.B. 1948, A.M. 1949, University of Illinois
A.B. in Govt. 1950, The George Washington University		Hough, Grace Blandford
Hopps, Andrew Bunting	Va.	Hough, Henry Loran
Hoppsman, Karl Heinz	Va.	B.S. in C.E. 1950, Tri-State College
Hoppy, Louise Marie	Okla.	Hough, Jane Chauncey
Hopson, Jeanne Louise	Ill.	Houghton, Richard Aver
Hopson, Nancy	Ill.	B.S. 1947, Harvard University
Hopwood, Joseph Edward	D.C.	M.B.A. 1948, University of Missouri
Horan, Martin Joseph	Ill.	Hork, Vernon Neal
B.B.A. 1946, M.B.A. 1947, University of Michigan		Horne, Margaret Irene
Hordow, Reuben	Va.	Horne, Wayne Dewitt
A.B. 1916, Yale University		Horseman, Amy Beatrice
L.L.B. 1926, University of Cincinnati	Wash.	A.B. 1927, Wellesley College
Hord, Keith Stuart		Houston, Robert Joseph
		Houts, Vernon Van Cleave
		B.S. 1936, Baker University
		Hoving, John Haines Forester
		A.B. 1947, University of Chicago
		Hovis, Dennis Elvin

Students Registered

483

Howar, Edmond			
Howard, Charles Raymond II	D.C.	Huberman, S. Arnold	N.Y.
Howard, Fred Steven	Ill.	B.C.E. 1950, Cornell University	
Howard, Henrietta Rothwell	Md.	Huddleston, Gem Anne	D.C.
B.E. 1937, Milwaukee State Teachers College	Wis.	Hudgins, Ann Shearer	Va.
A.M. in Ed. 1950, The George Washington University		Hudgins, Richard Scott	Va.
Howard, Jay William		Hudgins, Walter Richardson	Md.
Howard, Mona Genevieve		A.B. 1938, Richmond College	
Howard, Percy John	D.C.	A.M. 1949, University of Richmond	N.H.
E.S. 1949, University of Alabama	D.C.	Hudson, Barbara Ethel	Va.
Howard, Robert Langhorne	D.C.	Hudson, Claude P.	W.Va.
Howard, William McNew		Hudson, James Matthew	
Howder, Murray Louis	Va.	A.B. in Govt. 1948, The George Washington University	Md.
Howe, Denis Herbert George	D.C.	Hudson, John Frederick	
B.S. 1950, Northwestern University	D.C.	A.B. 1951, The George Washington University	
Howe, Richard Bryner	Ill.	Hudson, Lewis C.	Tenn.
Howell, Carl Jackson, Jr.	Pa.	B.S. 1941, United States Naval Academy	
B.Ch.E. 1950, North Carolina State College	Va.	Hueber, Joan Ann	N.Y.
Howell, Frances Dodd		Huff, Joyce Evelyn	D.C.
A.B. 1951, The George Washington University	N.C.	Huff, Marion Mitchell	D.C.
Howell, James Warren		Huff, Maxine	D.C.
B.S. 1947, M.F. 1948, Michigan State College	Va.	Huff, Thomas Robert	Calif.
Howell, Margaret Affarene		Huffman, Paul Douglas	Va.
A.B. 1947, Baylor University		A.B. 1947, Duke University	
A.M. 1949, University of Rochester	Tex.	Huffman, Richard Myall	Md.
Howell, Patricia Ann		A.B. 1951, Haverford College	
Howell, Richard Scoles		Huffman, Ruth Joanne	Ohio
Howarth, Shirley Claire	D.C.	A.B. 1948, Duke University	
A.B. 1951, The George Washington University	Va.	Hughes, Barbara Marie	D.C.
Howison, Janita Carmack	D.C.	Hughes, Brandon Chappelle	D.C.
Howley, Mary Jane		Hughes, David Charles	D.C.
Howze, Robert William	Va.	B.S. in Eng. 1940, Wayne University	
B.S. 1947, Pennsylvania State Teachers College, West Chester	D.C.	Hughes, Edmund Crump	D.C.
A.M. in Ed. 1951, The George Washington University	D.C.	Hughes, Edward James	Pa.
Hoyle, John Everett	Md.	Hughes, Edward Williamson	Ill.
B.S. 1946, The George Washington University		A.B. 1947, LL.B. 1947, Washington University	
Hoyle, Lucie Eleanor	Mass.	Hughes, Elizabeth Margaret	Pa.
B.S. 1946, The George Washington University	D.C.	Hughes, Harry Roe	Md.
Hoyt, Homer Lewis		B.S. 1949, University of Maryland	
Hoyt, Jeanne Edith		Hughes, Henry Franklin	Md.
Hoyt, John Paul	Md.	Hughes, James Henry	Va.
B.S. 1948, Middlebury College	D.C.	A.B. 1948, New York University	
A.M. 1953, Columbia University	Md.	Hughes, John Francis	D.C.
How, Warren Irwin		Hughes, John Franklin	Wyo.
How, William George		B.S. 1948, University of Wyoming	
A.B. 1954, The George Washington University	Pa.	A.M. 1950, University of Southern California	
Howe, Susanna Mayer	N.Y.	Hughes, John Temple	Va.
Hoyt, Delia		Hughes, Michael Vincent	N.Y.
Hoang, Shing-yn	D.C.	Hughes, Norman Wilfred	N.J.
A.B. 1947, Central Institute of Political Science, Nanking	D.C.	B.S. in B.A. 1951, Rutgers University	Kans.
A.M. in Govt. 1947, The George Washington University	China	Hughes, Oliver Henry	
Hubbard, Charles Harold		B.S. 1942, LL.B. 1947, University of Kansas	
B.S. 1945, Illinois College		Hughes, Patricia Ann	Md.
Hubbell, Nancy Fae	Va.	Hughes, Richard Ford	Ohio
Huber, Charles E.	Vt.	Hughes, Robert Bruce	
B.S. in F.E. 1948, Ohio University		A.B. 1948, University of Cincinnati	Va.
Huber, Doyle William	Va.	Hughes, Robert Joseph	Ohio
Huber, Joseph Richard	Md.	Hughes, William Malcolm	Va.
B.S. 1950, Georgetown University	Ill.	Hughitt, Jerry Reeke	D.C.
	N.Y.	Huyoniot, Eunice Lenora	
		B.E. 1947, Northern Illinois State Teachers College	
		Hughes, James Gordon	D.C.
		A.B. 1949, Catholic University of America	
		Hui, Peter Shui-Pui	D.C.
		Hui, Wing Yam	China
		A.B. 1950, The George Washington University	

Hulshab, Harriett	Va.	Hurley, John Gregory, Jr.	D.C.
Hulshab, Joan Spofford	Va.	B.S. 1930, Georgetown University	D.C.
Hulings, Hazel Marjorie	Kans.	Hurley, John James	D.C.
Hull, Kenneth Duryee, Jr.	Calif.	A.B. in Ed. 1948, The George Washington University	D.C.
A.B. 1950, Stanford University			
Hull, Marjorie Louise	D.C.	Hurley, Maryanne	N.M.
Hull, Maury Isaac	Va.	A.B. 1948, Geneva College	D.C.
A.B. 1942, Southwestern University		Hurley, Mary Hope	
A.M. 1946, The George Washington University		Hurley, Thomas Jefferson	
Hull, Warren Robertson	N.Y.	Hurley, Virginia Clappitt	N.M.
Hulley, Althea Isabelle	D.C.	A.B. 1930, Baylor University	
Hulley, James Pierce	D.C.	Ed.M. 1935, University of Texas	
B.S. 1924, United States Military Academy		Hurley, Wilson Patrick	Ala.
A.M. 1951, The George Washington University		B.S. 1945, United States Military Academy	
Hulsey, Judson Dowling	D.C.	Hurt, Mary Texas	Md.
B.E.E. 1951, The George Washington University		A.B. 1940, The George Washington University	
Hume, Kevin Charles	N.J.	Hurt, James M.	Va.
Humes, Theodore Leon	Pa.	A.B. 1939, Western Kentucky State Teachers College	Conn.
A.B. 1948, University of Pittsburgh			
Hummel, Henry Black	D.C.	Hurwitz, Martin	Conn.
Hummel, Robert Stuart	Md.	Hury, Pauline Martha	Va.
A.B. 1939, University of California		Huss, Ralph Edwin	D.C.
Humphreys, Frank Ray	N.Y.	A.B. 1943, University of Minnesota	Fla.
Humphreys, Richard Raum	D.C.	Husser, Andrew	
A.B. 1949, Ohio Wesleyan University		Hussion, Edward Eugene	
Humphries, Hendri Gordon	S.C.	Huston, Marylys Ann	D.C.
Hung, Chung Chong	D.C.	B.S. in Ed. 1940, Wilson Teachers College	Tex.
A.B. 1927, San Diego State College			
A.M. 1929, Columbia University		Huston, Robert Cameron, Jr.	Wash.
Hunley, William Henry	Va.	Hutcheson, Carol Jones	Tenn.
Hunnicut, Lemuel Scarbrough	D.C.	Hutchinson, A'lan Stanton	D.C.
Hunt, Charles Edmund	Va.	B.S. 1948, St. Martin's College	
B.S. in B.A. 1950, Georgetown University		Hutchinson, Florence Louise	
Hunt, John Chelsea	Conn.	Hutchinson, George Edward	D.C.
Hunt, Margaret Meredith	Mich.	A.B. 1951, The George Washington University	D.C.
Hunt, Richard Coulter Drum	Md.	Hutchinson, George LeRoy	D.C.
B.S. 1950, United States Naval Academy		Hutchinson, Nina	Mich.
A.M. 1950, University of Pennsylvania		Hutchinson, Robert Otis	Calif.
Hunt, Russell William	W.Va.	A.B. 1950, Dartmouth College	
Hunt, Sally Ann	D.C.	Hutchinson, James Warner	
Hunt, Thomas Joseph	Va.	Huttmire, Edward William	D.C.
Hunter, Barbara Jean	W.Va.	B.S. 1951, The George Washington University	Va.
Hunter, Godfrey Thomas	Conn.	Hutson, Irene Charlan	
Hunter, Issa Roy	D.C.	Hutson, James Franklin	
Hunter, Laura Grace	Tex.	B.S. 1949, University of Virginia	
A.B. 1929, University of Texas		Hutton, Daniel Cordell	N.Y.
Hunter, Lucian O.	Ky.	A.B. 1948, University of Utah	Ed.
Hunter, Nancy Elizabeth	Vt.	A.M. 1950, The George Washington University	M.
Huntton, Richard Edwin	D.C.	Huver, Richard Gerard	N.Y.
A.B. 1940, The George Washington University		Huven, Anne	
Huntoon, Richard James	Mich.	Huyssoon, Marion Evelyn	
B.S. in M.E. 1943, University of Michigan		Hyatt, Bernard LeRoy	Pa.
Huntwork, Bruce Leslie	Calif.	Hyde, Edward Richard	Calif.
Hurd, James William	N.Y.	B.S. in E.E. 1948, Purdue University	
Hurd, John Brewster	Utah	Hyde, John William	D.C.
A.B. 1950, Westminster College		Hydeman, William Robert	
Hurd, Margaret Kathryn	Minn.	A.B. 1935, Miami University	
Hurkett, Jack Walter	D.C.	A.M. 1937, Syracuse University	
Hurley, Charles Warren	Md.	Hyder, Robert Guy	D.C.
Hurley, Douthanel Anne	Ill.	A.B. 1949, Southern Missionary College	
Hurley, Elsie M.	Va.		
B.S. in Ed. 1910, College of the City of New York		Hyland, Matthew Phillip	D.C.
Hurley, Homer Sanders, Jr.	Va.	Hyman, Harry Joseph	D.C.
		Hymn, Lawrence A.	N.Y.
		A.B. 1951, Syracuse University	
		Hymowitz, Helen	
		Hymowitz, Shirley L.	
		Hynes, Paul Allen	
		Hynes, Robert Edward	



## I

Iandolo, Angelo John	N.Y.	Ishak-Said, Abdul Aziz	Syria
B.S. in P.E. 1951, The George Washington University		Isler, Jeanette Arlene	Ill.
Ice, Inez Lorraine	D.C.	Istley, Dale Elmer	D.C.
B.S. 1949, University of Rochester		Isom, Robert Dale	Ill.
Ire, John Frederick	D.C.	A.B. 1952, Drake University	
Icenhower, David Edward	D.C.	Israel, Ferné Alice	Pa.
Idone, Leon Sumner	D.C.	Israel, Thomas Sewell	Md.
B.S. 1940, University of Toledo		A.B. 1942, The George Washington University	
Ilehart, 1947, University of Michigan	Md.	Iten, Ramona Adeline	Mass.
Ilehart, Anne Calhoun		Itzyre, Edwin Recher	Md.
A.B. 1951, Bryn Mawr College		Itzkoff, Seymour W.	N.Y.
Ilehart, John Joseph	Md.	A.B. 1950, Hillyer College	
Ilegami, David Takeshi	Hawaii	Iverson, John Roger	Va.
A.B. in Govt. 1949, The George Washington University		Iwamoto, David	Hawaii
Ill, Paul Louis	D.C.	A.B. 1947, Walla Walla College	
A.B. 1936, A.M. 1941, University of California		Izac, Suzanne M.	D.C.
Imbert, Rosemary	Mont.	Izzard, Mary Garwood	Va.
A.B. 1944, Montana State University		A.B. 1950, University of Michigan	
Indorf, Frederick Anderson	Mo.		
B.S. in Ed. 1938, University of Missouri		J	
A.M. in Ed. 1949, The George Washington University		Jablunski, Stanley	Va.
Inferno, Carmelo John	N.J.	Jack, Paul Summers, Jr.	N.Y.
A.B. in Govt. 1947, The George Washington University		Jackson, Algernon Wilmer	Va.
Inalla, Aune Miriam	D.C.	Jackson, Arthur Dale	D.C.
Inalls, Huntley Hampton		A.B. 1940, Texas Technological College	
Ingersoll, Barbara Gertrude	Md.	L.L.B. 1940, Harvard University	
Ingersoll, Sarah Ellen	Md.	Jackson, Anzville, Jr.	Va.
Inlin, Anthony	N.J.	B.S. in Met.E. 1950, Virginia Polytechnic Institute	
Inman, Raymond George	D.C.	Jackson, Betty Jo	Tex.
Inouye, John Reynolds	N.Y.	A.B. 1947, Texas Technological College	
A.B. 1950, University of Hawaii		Jackson, Catherine	Va.
Inoue, June V. 1951, a	Mo.	Jackson, Daniel Grove	Md.
Inrater, Natalie Block	Hawaii	A.B. 1951, University of Maryland	
Inouine, Joseph Francis	N.Y.	Jackson, Duane J.	Okla.
Inono, Joseph Anthony	D.C.	B.S. 1946, Central State College	
A.B. 1954, The George Washington University		Jackson, Frances Beatrice	Tenn.
Inono, Julian	D.C.	B.S. 1944, East Tennessee State College	
Inok, Charles Anthony	N.J.	A.M. in Ed. 1950, The George Washington University	
Inok, Leonard Mason	D.C.	Jackson, Frank Holbrook	Md.
Inon, Elizabeth Ann	D.C.	B.S. 1948, University of Maryland	
B.S. 1949, University of Cincinnati		Jackson, Mary Elizabeth	D.C.
B.S. 1949, University of Southern California	Ky.	Jackson, Mary Patricia	Fla.
Ivan, Margaret Catherine	Va.	Jackson, Robert Douglas	Md.
Ivan, William Gordon	Colo.	Jackson, Robert McClelland	D.C.
Irvine, Alison Gilchrist	D.C.	Jackson, Robert Taggart	R.I.
Irvine, Eleanor Hood	Va.	Jackson, Ruth Stevenson	Va.
A.B. 1947, Cornell University	N.Y.	A.B. in Govt. 1948, The George Washington University	
A.B. 1947, West Virginia University	W.Va.	Jackson, Sandra Sue	Va.
B.S. in Eng. 1950, The George Washington University		Jackson, Selwyn Charles	Ohio
Ivin, William Foster	Va.	L.L.B. 1948, Boston College	
B.S. in P.E. 1950, The George Washington University		Jackson, Thomas Avery	Va.
Iverson, Estel Alta	Va.	B.S. 1951, Mississippi Southern College	
Iverson, Irving	Md.	Jackson, Tylon Lamar	Md.
Iverson, Walter Gordon	Va.	B.S. in Eng. 1940, University of Mississippi	
Ish, Francis Russell	D.C.	Jackson, William Edward	D.C.
Ish, George Drexel	D.C.	Jacob, Fred	N.Y.
B.S. 1951, Michigan State College		B.F.E. 1948, College of the City of New York	
		Jacob, John Bevard	Va.
		Jacob, Phyllis Eileen	D.C.
		Jacobs, Barbara Tanya	D.C.
		Jacobs, Elizabeth Ann	Iowa
		Jacobs, George J.	Md.
		A.B. 1940, University of Mississippi	
		M.S. 1947, West Virginia University	

Jacobs, James Wriley B.S. in P.E. 1940, The George Washington University	Md.	Jaskiewicz, Joseph Francis A.B. in Govt. 1949, The George Washington University	Pa.
Jacobs, John J., Jr. B.S. 1944, Pennsylvania State Teachers College, Kutztown	Pa.	Jaskiewicz, Leonard Albert A.B. 1949, University of Connecticut	Pa.
M.S. 1947, University of Pennsylvania		Jaskot, John Joseph LL.B. 1951, The George Washington University	Md.
Jacobs, Lawrence Lavendee B.S. 1943, College of the City of New York	Va.	Jasper, William Ragland Jaynes, Franklin Harvey	D.C.
Jacobs, Morton Clifford J.D. 1951, The George Washington University	N.Y.	Jecklin, Hilda Lawson A.B. 1922, University of Richmond	D.C.
Jacobs, Stanley Robert Jacobs, Tyrrell Dwight B.S. 1927, United States Naval Academy	D.C.	Jeffers, Albert Lavern B.S. 1949, Evansville College	Ind.
Jacobson, Edwin Ronald B.S. 1949, Johns Hopkins University	Okla.	Jeffers, Mary Lea Miles Jefferson, Louis Wilson, Jr.	Ind.
Jacobson, Lindsay Kay Jacobstein, Harold B.S. in Ed. 1949, Pennsylvania State Teachers College, Indiana	Md.	Jeffrey, Charles Thomas Jellies, Margaret Elizabeth	Ind.
Jacques, Jeanne Marie Jaspke, Arlene Ann	Nev.	Jenkel, Albert Arthur Jenkel, Martin John	Pa.
Jeebs, Charles Harry B.S. 1949, University of Maryland	Pa.	Jenkins, Dolores Jenkins, Irving Leroy	Okla.
Jaeger, Harold Edward A.B. 1950, Western Reserve University	Va.	Jenkins, Jack Howard Jenkins, June	La.
Jaesacke, Walter Karl Jaeschke, John Henry, Jr.	D.C.	Jenkins, Madeline W. Jenkins, Ralph Elton	Va.
Jaffe, Laureate Shepherd Jaffe, Sidney Abraham A.B. 1948, The George Washington University	D.C.	Jenkins, Robert Conors, Jr. Jenkins, Roy Allen	D.C.
Jaffee, Max B.S. 1951, Washington College	N.J.	Jennings, Bonner Parnell Jennings, Edward Paul, Jr.	Md.
James, Arthur Dean B.S. 1950, University of Kansas	D.C.	Jennings, Nancy Alice A.B. 1949, The George Washington University	D.C.
James, Beth A.B. 1948, Texas Christian University	D.C.	Jennings, Pauline Emogene Jennings, Sara Flowers	N.Y.
James, Charlotte Miles James, Festus Burrell James, Howard Victor	Kans.	Jennings, Vincent James A.B. 1948, Yale University	Md.
James, Lloyd Edward James, William Valentine	Va.	Jensen, Dinnemond Virginia B.S. 1947, Wisconsin State Teachers College, LaCrosse	Md.
Jameson, John Franklin Jameson, Richard Eagleston A.B. 1947, St. John's College	Va.	Jensen, Emilie K. B.S. 1949, Columbia University	Utah
Jamgochian, Hagop Herach A.B. 1947, Clark University	D.C.	Jensen, Jack Munsen Jensen, John Robert, Jr.	Ind.
Jamieson, Elizabeth Cecelia A.B. 1958, The George Washington University	D.C.	Jensen, Thelma Irene Jepson, Peter	Pa.
A.M. 1947, Columbia University		A.B. 1951, State University of Iowa	N.Y.
Jamieson, Elsie Jean Jamieson, James Yancey	D.C.	Jernigan, Joseph Branscomb Jerome, Charles Joseph	
Jamieson, Jane Allen Janetta, George John	D.C.	A.B. in Ed. 1951, The George Washington University	
Jani, Fred Carl, Jr. B.S. 1951, University of Maryland	Mass.	Jerome, Dorothea Glenn Shepherd A.B. in Ed. 1951, The George Washington University	Pa.
Janssen, Lillian Bruce Jaramillo, Amelia Canlas	D.C.	Jerome, Edward Alexander Ph.D. 1947, Columbia University	Md.
Jarcho, Harold George B.S. in E.E. 1940, Rhode Island State College	D.C.	Jetton, Francis John Jetton, Girard Reuel, Jr.	
Jarnagin, Elwood Edgar Jarett, Donald Ward	Mass.	B.S. in Eng. 1945, A.B. 1947, The George Washington University	
Jaskiewicz, Edmund Michael B.S. 1947, University of Connecticut	D.C.	Li, B. 1951, Harvard University	
Jaskiewicz, Joseph Adam	Philippines	Jewell, Edwin Weedon A.B. 1951, The George Washington University	
	R.I.	Jewell, Joseph Thomas, Jr. Jez, Rita Marie	
	Ohio	Jira, Jaroslav J.D. 1951, University of Prague	
	Iowa	Jobe, Milton Lockwood Johansen, Robert Howard	
	Conn.	Johansen, Wilford W. A.B. 1951, Idaho State College	
	D.C.		

# Students Registered

487

Johns, William John			
Johnson, Andrew Robert	Ill.	Johnson, Norman Huff	D.C.
Johnson, Augustus Clark	Md.	A.B. 1928, College of William and Mary	
A.B. 1946, A.M. 1948, The George Washington University	Va.	M.Litt. 1949, University of Pittsburgh	
Johnson, Barbara Ann		Johnson, Paul John	Ill.
Johnson, Bertrand Ellwood	Minn.	Johnson, Peggy Brown	Va.
A.B. 1924, L.L.B. 1929, University of Oklahoma	Va.	A.B. 1928, Carleton College	
Johnson, Carl Richard		Johnson, Raymond Sund	Va.
Johnson, Charles Albert	D.C.	B.S. in M.E. 1938, University of North Dakota	
Johnson, Charles Kohler	Md.	Johnson, Rhyley Wade	Md.
A.B. 1948, A.M. 1949, Stanford University	Calif.	Johnson, Richard Huber	Va.
Johnson, Clyde Lawrence		Johnson, Robert Edward	Iowa
A.B. in Govt. 1950, The George Washington University	Va.	Johnson, Robert Edwin	N.Y.
Johnson, Daniel Lynn	Md.	A.B. in Govt. 1951, The George Washington University	
Johnson, Duane Murtane		Johnson, Robert Lee	Calif.
Johnson, Donald Stevenson	Minn.	Johnson, Ruth Anne	Md.
A.B. 1939, Yale College	Va.	A.B. 1931, University of Colorado	
Johnson, Doris Ann		Johnson, William John	Md.
Johnson, Dorothy Lee	D.C.	A.B. 1927, Gettysburg College	
B.S. in Ed. 1940, Wilson Teachers College	D.C.	Johnson, William Joseph	Pa.
A.M. in Ed. 1945, The George Washington University		Johnson, Barbara Ann	La.
Johnson, Dorothy Louise		Johnson, Harvey Wylie	N.C.
Johnson, Douglas Richard	Md.	B.S. 1949, University of North Carolina	
Johnson, Earl Winslow	Va.	Johnston, Joanna Carole	Mich.
B.S. 1942, Pennsylvania State College	N.Y.	Johnston, Josephine Elizabeth	Pa.
Johnson, Edwin Denton		Johnston, Margaret Hildreth	Md.
Johnson, Ellsworth Lowell	D.C.	A.B. 1941, The George Washington University	
B.S. 1940, Carnegie Institute of Technology	N.Y.	Johnston, Richard Smith	Md.
Johnson, Elise Nora		A.B. 1952, University of Maryland	
B.S. 1936, Wilson Teachers College		Johnstone, Elizabeth Caroline	D.C.
A.M. in Ed. 1940, The George Washington University	D.C.	Johnstone, Thomas Carlisle	Va.
Johnson, Ethel Lima		Jones, Geneva Colfield	Va.
Johnson, Eva M.		B.S. 1941, Alabama State Teachers College, Florence	
A.B. 1946, A.M. 1951, The George Washington University	Va.	Johet, Margaret Josephine	N.Y.
Johnson, Everett Carl	Md.	Jolley, Weston Parker, Jr.	La.
Johnson, Geraldine Mary		Jolly, Dale Carl	D.C.
Johnson, Gloria Louisa	Va.	B.S. 1951, University of Oregon	
Johnson, Hal Emerson	D.C.	Jolly, Donald Gilbert	Miss.
Johnson, Hattie Samuel		Jolly, William Thomas	Tex.
Johnson, Huel Charles	D.C.	Jones, Alan Walter	D.C.
Johnson, Irene Mary	Md.	Jones, Anna Beth	Iowa
B.S. 1947, University of Nebraska	Va.	Jones, Audrey Lenora	Va.
Johnson, John V.	Colo.	Jones, Benjamin Perry, Jr.	N.C.
Johnson, Jean Elizabeth		A.B. in Govt. 1952, The George Washington University	
Johnson, Lee Farnum, Jr.	Va.	Jones, Beverly Ann	D.C.
A.B. 1951, University of Colorado	Iowa	Jones, Beverly Ruth	D.C.
Johnson, Louis Earl	Va.	A.B. 1950, Lynchburg College	
Johnson, Margaret Elizabeth		Jones, Calvin Clark	Va.
B.S. in Ed. 1942, Pennsylvania State Teachers College, California	D.C.	Jones, Carl Neelsen	Md.
Johnson, Marion Verna	Md.	A.B. 1947, University of Oregon	
A.B. 1946, L.L.B. 1950, University of Alabama	Md.	Jones, Catherine Lath	Va.
Johnson, Margie Pennington	Mass.	Jones, Charles Clements	Va.
Johnson, Marshall Peyton	Ala.	A.B. 1954, Williams College	
B.S. 1951, University of Maryland		B.S. in F.S. 1951, Georgetown University	
Johnson, Mary Joan	Md.	Jones, Charles Hampton, Jr.	D.C.
B.S. 1952, University of Wisconsin		Jones, Charles Louis	D.C.
Johnson, Myles MacCrimmon	Wis.	Jones, Claret Alwynus	D.C.
Johnson, Newell Duane	D.C.	A.B. in Govt. 1951, The George Washington University	
	Iowa	Jones, Claret J.	Ga.
		Jones, Clayton David	Tex.
		B.S. 1947, Mississippi State College	
		Jones, Carl David	Mich.
		A.B. 1947, A.M. 1950, Wayne University	
		Jones, Daniel Joseph	Va.
		B.S. 1940, University of Connecticut	



Jones, Daniel Mason	W.Va.	Josephson, Edward Samuel	Ma.
A.B. 1948, Shepherd College		A.B. 1932, Harvard University	Meck.
Jones, David Martin Hess	Md.	Ph.D. 1940, Massachusetts Institute	D.C.
Jones, Doris Virginia	Va.	of Technology	Man.
Jones, Douglas Johnson	N.C.	Josephson, Gilbert C.	
A.B. 1951, Duke University		Joskovitz, Dora Helena	
Jones, Edward Allan	Va.	Joslyn, Danforth	
A.B. 1951, Randolph-Macon College		Joyce, Martha Radcliffe	D.C.
Jones, Edward Richard	Va.	A.B. 1944, Wellesley College	Ga.
B.S. 1941, Randolph-Macon College		Joyce, Maurice C.	D.C.
Jones, Elizabeth McMahan	Md.	Joyner, Howell Caloway	Ma.
B.S. 1941, University of Maryland		Juarez, Gloria M.	D.C.
Jones, Evelyn Jean	Mass.	Judd, Dean Burritt	N.Y.
A.B. 1951, Wellesley College		Judd, Howard Galloway	D.C.
Jones, Frederick Bruce	N.Y.	Judd, Kenneth C.	
Jones, Gary V.	D.C.	Judkins, Woodrow Wallis	
B.S. 1950, University of North		Judy, Martin Conner	D.C.
Carolina		A.B. 1946, Shepherd College	
Jones, George Edgar	Miss.	Julien, Laura Jean	D.C.
Jones, George Jerome	Okla.	B.S. 1940, Purdue University	D.C.
A.B. 1951, University of Oklahoma		Juhus, Richard Friedli	D.C.
Jones, Glynne Morgan	La.	Junco, Ida Mary	
Jones, Helen Rector	Va.	Jundi, Shamseddine	N.J.
B.S. 1940, Madison College		M.D. 1948, University of Syria	
Jones, Hilda Mary	D.C.	Jungblut, Edward Wilmont	Va.
Ph.B. 1948, Marygrove College		A.B. 1950, The George Washington	Va.
A.B. 1951, The George Washington		University	
University		Junker, Norman A.	N.H.
Jones, Isaac Thomas	Va.	Junkin, Alice H.	
B.S. in Ed. 1940, Pennsylvania State		B.S. 1932, Simmons College	
Teachers College, Bloomsburg	D.C.	Junkins, Ernest Miller	Ohio
Jones, James Mitchell	Pa.	B.S. in M.E. 1950, University of	
Jones, James Robert	D.C.	New Hampshire	D.C.
Jones, Lee Dana	Mass.	Junkins, Philip Dexter	Va.
Jones, Leonard Bernard, Jr.	Md.	B.M.E. 1951, Ohio State University	
Jones, Lois Perry		Jurash, Peter Paul	Va.
A.B. 1947, University of Kentucky	D.C.	Juster, Harlan	Ky.
Jones, Louisa Elizabeth		A.B. 1948, University of Illinois	Va.
A.B. 1938, Bryn Mawr College		Justice, Charles F. B.	
B.D. 1942, Union Theological Seminary	Va.	Justice, Edgar Thompson	D.C.
Jones, Marilyn R.	Pa.	Justice, Glendon Burke, Jr.	Ind.
Jones, Mary Louise		B.S. 1950, University of Maryland	
B.S. in H.E. 1946, College		Jwanbeh, Patricia Jane	Man.
Misericordia		Jwanbeh, Zuhair Elias	
Jones, Mary Virginia	D.C.	L.L.B. 1944, Baghdad Law College, Iraq	
A.B. 1951, University of North		Jylkka, Edward Walter	
Carolina			K
Jones, Nathan Eugene	D.C.		
Jones, Norman Paul	Md.	Kabatchnick, Neil Bernard	Ohio
Jones, Norman William	Pa.	B.S. 1950, University of Scranton	Pa.
B.S. 1947, University of Scranton		Kabrich, Delmar, Jr.	Va.
Jones, Patricia Marlene	Utah	Kadak, John M. C.	
Jones, Robert Kay	Va.	Kallenberger, William Michael	
Jones, Robert Theron	Md.	Kahler, George Walter	
Jones, Theresa Ann	D.C.	B.S. in Ed. 1946, Temple University	
Jones, Walter Warren	Ky.	B.S. in L.S. 1949, Drexel Institute of	
A.B. in Ed. 1950, The George		Technology	
Washington University		Kahler, Mary Ellis	
Jones, Wilbur Arters	Md.	A.B. 1940, Swarthmore College	D.C.
A.B. 1941, A.M. 1937, University		B.L.S. 1940, Drexel Institute of	
of Maryland		Technology	
Jones, William Lee	Md.	Kahn, Asher Daniel	
Jordan, Abraham	D.C.	Kahn, Cathleen Louise	N.C.
L.L.B. 1932, St. John's University		A.B. 1950, The George Washington	
Jordan, Francis Xavier	Md.	University	
A.B. 1937, University of Maryland		Kahn, Howard	Pa.
Jordan, John Alexander	D.C.	A.B. 1940, University of North	
A.B. 1948, University of Wisconsin		Carolina	
Jordan, Robert Eugene	Va.	Kahn, Kalvin	
Jordan, Russell Coburn	Calif.	A.B. 1948, University of Pennsylvania	
Jose, William III	D.C.	Kahn, Marilyn	
		Kahn, Robert	
		A.B. 1945, University of Pennsylvania	

# Students Registered

489

Kaiser, Ferdinand George	N.J.	Kaplan, Nathan	N.Y.
Kaiser, Jesse Albert	D.C.	B.S. 1939, College of the City of New York	
Kaiser, Stanley Mortimer	Md.	Kaplan, Phyllis	D.C.
LL.B. 1950, The George Washington University		Kaplan, Ruth Peisach	D.C.
Kaiser, Stuart Berwin	D.C.	Kaplan, Walter Jules	N.Y.
A.B. 1945, Harvard University		Kapneck, Phil Raum	D.C.
Kakalec, John	Pa.	Kapnistos, Nicholas	Mo.
A.B. in Govt. 1949, The George Washington University		B.S. 1942, Bethany College	
Kakalec, Nicholas Joseph	Pa.	Kapsianos, William George	D.C.
Kalaviki, Jamie Swafford	Tenn.	Karadimos, Peter Spiros	D.C.
Kale, Delbert Raymond	Kans.	A.B. in Govt. 1949, The George Washington University	
Kalen, Robert Lawrence	Mont.	Karagiorgos, Nicholas Demetrius	Md.
B.S. 1940, United States Naval Academy		B.E.E. 1951, The George Washington University	
Kallus, Ira	D.C.	Karas, Michael J.	Pa.
Kallman, Beatrice	N.Y.	Karavangelos, Elizabeth	D.C.
B.S. 1945, The George Washington University		Karayannis, Nicholas John	D.C.
Kallmeyer, Roy Leslie	Md.	Kareutski, Charles Anthony	Pa.
Kalman, Benjamin	Md.	Karelhas, George Andrew	D.C.
Kalmer, Phyllis Anne	Wis.	Karis, Aleck G.	D.C.
Kaluf, John	D.C.	B.S. 1948, University of Minnesota	
Kalvin, Paul Craig	Va.	Karjaway, Khalid M.	D.C.
A.B. 1948, The George Washington University		A.B. 1951, New Mexico Highland University	
Kamecka, Maria Henrietta	D.C.	Karmel, Charles Lewis	Md.
Kamerow, Betty Lucille	D.C.	Karousatos, Fotis Nicholas	D.C.
Kamman, Norbert Joseph	Pa.	Karpe, Sol Fried	Md.
B.S. 1950, University of Scranton		B.S. in E.E. 1934, Louisiana State University	
Kamm, Charles William, Jr.	Pa.	Karr, Michael Harris	Va.
A.B. 1950, Wash. College		B.S. in E.E. 1937, New York University	
Kamen, Edith Bula	D.C.	Karras, James Christian	D.C.
A.B. 1951, Arizona State College, Tempe	N.J.	A.B. 1949, University of Michigan	
Kanapack, Kasimir	Iowa	Karsted, Jessie Walton	D.C.
Kanazawa, Hiroshi Robert	D.C.	Karstens, Ruth Flora	Va.
B.S. 1947, University of Washington		Karver, Elliot	N.Y.
Kane, John Francis	Md.	Karvatt, Robert Charles	Md.
Kane, Paul Michael	Pa.	Kase, Francis Joseph	D.C.
A.B. 1950, Wagner College		J.D. 1954, Charles University, Prague	
Kane, Robert B.	Ill.	Kashdan, Laurence	Va.
B.S. 1950, University of Illinois		B.S. 1947, University of Chicago	
Kase, William Matthew	Md.	Kasins, Richard Volker	Mo.
A.B. 1950, College of the Holy Cross		A.B. 1941, University of Chicago	
Kanemoto, Shiroo	Hawaii	M.P.H. 1948, Johns Hopkins University	
A.B. 1946, University of Hawaii		Kaskin, Jacqueline Sylvia	D.C.
Kannowski, David Max	N.D.	Kasmit, Sidney	N.Y.
A.B. 1950, A.M. 1951, University of North Dakota	Conn.	Kaspar, Alexander Garrett	D.C.
Kantowitz, Gerald		Kassebaum, Robert Gray	Va.
A.B. 1950, The George Washington University		Kassel, Simon	N.Y.
Kane, Robert Frederick	Va.	Kastantin, Julius Joseph	Mass.
Kaplan, Laura Ke Shan	N.Y.	B.S. 1942, Pennsylvania Military College	
Kaplan, Anne Alexander	Greece	Kasten, Marie Antoinette	D.C.
Kaplan, Frank James	Ohio	A.B. 1928, A.M. 1911, University of Wisconsin	
Kaplan, Eugene	Ariz.	Katabi, Mohamed Adnan	Syria
Kaplan, Gail Bernadine	Va.	A.B. 1948, American University, Beirut	
Kaplan, George	D.C.	A.M. 1953, University of Cincinnati	
A.B. 1948, The George Washington University	Ill.	Katalinich, Mary M.	
Kaplan, Harvey Douglas		Kator, Irving	Mon.
A.B. 1946, LL.B. 1948, New York University	D.C.	A.B. 1941, University of Michigan	Mich.
Kaplan, Jay E.	D.C.	Katsche, Vangel	N.Y.
Kaplan, Marcia	N.Y.	B.E.E. 1947, College of the City of New York	
A.B. 1946, University of Michigan	Md.	Katz, Israel Jacob	D.C.
Kaplan, Morton J.	D.C.	Katz, Joseph P.	N.Y.
		B.B.A. 1950, College of the City of New York	
		J.D. 1948, The George Washington University	

Katz, Julius	Md.	Keefe, Clara Louise	D.C.
Katz, Julius Louis	N.Y.	Keefe, Abe Russell	Pa.
A.B. in Govt. 1940, The George Washington University		B.S. in Ed. 1948, Pennsylvania State Teachers College, California	Pa.
Katz, Murray	N.Y.	Keegan, James Daniel	Pa.
B.Ch.E. 1947, College of the City of New York		Keegan, Patricia M.	Pa.
Katz, Norman Harold	Md.	Keeler, Dorothy Patricia	Pa.
B.S. 1949, University of Maryland		Keels, Myrtis Merritt	Pa.
Katz, Sally Gordon	Pa.	B.S. 1928, Winthrop College	Pa.
Kaufman, Chloe C.	D.C.	M.S. 1940, University of Tennessee	Pa.
Kaufman, Geraldine Small	D.C.	Keen, Edward Shain	Pa.
Kaufman, Herbert	Va.	Keen, Owen Allen	Pa.
Kaufman, Lillie	Va.	Keener, Lloyd Orville	Pa.
Kaufman, Miriam	D.C.	Keeney, Cecil Madison	Pa.
B.S. 1941, Wilson Teachers College		Keeney, John Christopher	Pa.
A.M. in Ed. 1947, The George Washington University		B.S. 1947, University of Scranton	Pa.
Kaufman, Rae Ann	Tex.	L.L.B. 1949, Dickinson Law School	Pa.
A.B. 1950, Texas State College for Women		Keeter, Charles Pace	Pa.
Kaufman, Richard Miles	Md.	Keever, Donald Bain	Pa.
Kaufman, Roger Alexander	D.C.	Kehart, Martin William	Pa.
Kaufman, Samuel Henry	Ill.	B.S. in C.E. 1926, University of Illinois	Pa.
B.S. 1941, University of Illinois		Keil, Armon Theodore	Pa.
Kaufman, Sidney	Conn.	Keiser, Ray Edward	Pa.
A.B. 1951, The George Washington University		A.B. 1949, Miami University	Pa.
Kaufman, Sol	N.Y.	Kesler, Carl Edward	Pa.
A.B. 1951, Washington University		Kesman, Ruth	Pa.
Kaufmann, Cora Lea	D.C.	Keith, Hudie Clellan, Jr.	Pa.
A.B. 1951, Mary Washington College		B.S. in C.E. 1949, Duke University	Pa.
Kause, Charlotte Ann	Ohio	Keith, Joyce Ray	Pa.
Kawten, John J.	D.C.	Kellam, Donald Swift, Jr.	Pa.
Kavruick, Samuel	N.Y.	Kellichan, Gordon Thomas	Pa.
B.S. 1947, M.S. 1949, College of the City of New York		Kellicher, George Francis	Pa.
A.M. in Govt. 1950, The George Washington University		B.S. 1950, College of the Holy Cross	Pa.
Kay, Jeanette Ruth	Mass.	Kellicher, Philip William	Pa.
Kaye, Alfred Howard	N.J.	A.B. 1948, The George Washington University	Pa.
Kaye, Gloria Jean	D.C.	Keller, Alban Francis	Pa.
Kaye, Myles Charles	Md.	Keller, Glenn Isabel	Pa.
Kazanski, Stanley	D.C.	Keller, Harry Obed, Jr.	Pa.
Keane, Robert Sourdavant	D.C.	A.B. 1949, Shepherd College	Pa.
Keary, John Patrick	D.C.	Keller, Thomas Dixon	Pa.
Kearin, Helen Marcia	Va.	Keller, William Adam	Pa.
Kearney, Anna Mary	Vt.	Keller, James Edmund	Pa.
B.F. 1948, Vermont Teachers College, Castleton		Kelley, Carl W.	Pa.
Kearney, John Hayward	D.C.	B.S. 1927, M.S. 1943, University of North Carolina	Pa.
Kearney, John James	D.C.	Ph.D. 1942, University of Maryland	Pa.
B.S. 1948, Furman University		Kelley, Charles William	Pa.
Kearney, Margaret Adele	Pa.	Kelley, David Philip	Pa.
Kearney, Shirley Mary	Pa.	B.S. in E.E. 1949, Lehigh University	Pa.
B.S. 1950, College Misericordia		Kelley, Donald Leighton	Pa.
Kearney, William Robert	Mich.	Kelley, Edward Conrad	Pa.
Kearns, Lillian Constance	Utah	Kelley, George Rudely	Pa.
Keas, Mary Ellen	Iowa	Kelley, Helen Vivian	Pa.
Keating, Gordon Ripley	Mass.	Kelley, John Joseph, Jr.	Pa.
Keating, Mary Dolores	D.C.	A.B. 1947, L.L.B. 1949, University of Notre Dame	Pa.
A.B. 1941, The George Washington University		Kelley, John James	Pa.
Kearney, Donald Charles	Md.	B.S. 1948, University of North Carolina	Pa.
B.S. 1942, Bowdoin College		Kelley, Mary Margaret	Pa.
Keck, Edwin William	Va.	B.S. 1947, Wilson Teachers College	Pa.
B.S. in Ed. 1948, Temple University	Pa.	Kellogg, Robert Stephen	Pa.
Keck, Leonard H.	Md.	Kelly, Alexander Jackson	Pa.
B.S. 1950, American University		Kelly, Alan William	Pa.
Keckler, John Kent	Md.	Kelly, Constance Anne	Pa.
Keckler, Joan Elise	D.C.	Kelly, Daniel Francis	Pa.
Keefe, Ann Marie	Ala.	Kelly, Dee J.	Pa.
		A.B. 1950, Texas Christian University	Pa.
		Kelly, Elizabeth Anne	Pa.



# Students Registered

491

Kelly, Frances Anne A.B. 1944, University of Chicago	Ill.	Keown, Glendola	D.C.
Kelly, Helen R. B.S. 1946, Maryland State Teachers College, Frostburg	Md.	Kerbaugh, Bernice Alice	Pa.
Kelly, James Edward		Kerbe, Wilmer Matthew	Md.
Kelly, John Joseph	D.C.	Kercheval, Robert Michael	Va.
Kelly, John Richard	N.Y.	B.S. 1958, United States Naval Academy	
Kelly, Joseph John	Md.	Kerekes, Richard Karl	D.C.
B.S. 1949, Ohio State University	Pa.	Keren, Michael	D.C.
Kelly, Kenneth Max	D.C.	Kerish, Burton	D.C.
A.B. 1947, Municipal University of Wichita		Kern, Charles Ellsworth, Jr.	D.C.
Kelly, Laura Lee	Va.	Kern, Jean Adele	D.C.
Kelly, Mary Elizabeth	Iowa	Kern, John Jerome	Md.
A.B. 1946, Drake University		A.B. 1949, Catholic University of America	
Kelly, Paul Edward	Pa.	Kern, Kenneth Jay	N.Y.
B.S. 1946, University of Scranton		Kern, Temple Christine	Va.
Kelly, Raymond Edward	Va.	Kerns, Norman Sigel	Wash.
Kelly, Robert Clay	Mo.	Kerr, Alex Arthur	
LL.B. 1932, Washington University		B.S. 1944, United States Naval Academy	
Kelly, Thomas Henry, Jr.	Va.	Kerr, David Renwick	Va.
Kelsey, William B., Jr.	Ky.	A.B. 1914, Columbia University	
B.S. 1949, University of Louisville		Kerr, Frederic Gerard II	Md.
A.B. 1942, University of Rochester	Md.	Kerr, Horace Eskew	D.C.
Kelsey, Donn Ray	Iowa	A.B. 1956, The George Washington University	
Kewen, Arthur David, Jr.	Pa.	Kerr, Melvyn Herbert	Ind.
Kemp, Henry Weiner		B.S. 1941, Indiana University	
A.B. 1950, The George Washington University	Ga.	Kerr, Richard Haller	W.Va.
Kemp, John Gordon	Md.	A.B. 1948, West Virginia University	
Kemp, Katherine Lee		Kerr, Roger Theodore	Va.
B.S. 1951, St. Joseph College	Md.	A.B. 1950, The George Washington University	
Kemp, Harold William	Va.	Kerr, Victor Harold	Va.
B.S. 1947, Rhode Island State College	Tenn.	Kerstenbaum, Janet Rea	D.C.
Kendall, Mary Ann	N.J.	Kerwan, Thomas John	Va.
Kendall, Jerome Michael	N.C.	B.S. 1944, Pennsylvania State Teachers College, Mansfield	
Kendall, Elizabeth Rebecca	D.C.	A.M. in Ed. 1949, The George Washington University	
A.B. 1942, Greensboro College		Kerwin, Lynne Redgrave	D.C.
Kendrick, John Watscheld	D.C.	Keskinen, Eric John	Md.
A.B. 1947, University of North Carolina		Kessel, Ruth Gertrude	Md.
Kendrick, Thomas William	Va.	Kesset, Irving Carl	Va.
Kennedy, Robert S.	Md.	Kessinger, Charles Daniel	La.
A.B. 1949, College University	Mass.	Kessinger, James Bennett	
Kennedy, Cecilia Mildred		A.B. 1949, The George Washington University	
B.S. in E.I. 1949, Boston University		Kessler, Floyd Sylvan	D.C.
Kennedy, Claude A. Jr.		Kessler, Gauthier Karl	D.C.
Kennedy, Elizabeth N.		Kessler, Harold	Md.
Kennedy, Harold Grant		Kessler, Thomas Barry	Md.
Kennedy, James Lewis		Ketheart, Norma Lee	Kans.
Kennedy, James Joseph		A.B. 1948, Washburn Municipal University of Topeka	
A.B. in Gen. 1951, The George Washington University	D.C.	Ketner, William Harry	Pa.
Kennedy, Margaret Frances	Maine	Kettler, Marilyn Faye	D.C.
Kennedy, Virginia		Kettles, Harry William	I.I.
Kennedy, Joseph Gerard	D.C.	Kettner, Walter Nicholas	Md.
A.B. 1950, University of California		Keown, R. Louis Andrews	Va.
Ketner, Raymond Joseph	N.Y.	Kevid, Bessan	Turkey
B.S. in C.E. 1950, University of Georgia		A.B. 1941, School of Political Sciences Ankara	
Ketner, William Lawrence		Kirk, Carlton Albert	D.C.
A.B. 1949, The George Washington University	Md.	Kirker, Arthur Seymour	Pa.
Ketner, Jack Howard	Fla.	B.S. 1951, University of Pennsylvania	
Ketner, Annabel B., Jr.	R.I.	Kirker, Rhonda Marjorie	D.C.
B.S. 1950, University of Rhode Island		Kirsh, Roy Kenneth	Va.
Ketone, Mary Rose	Conn.	Khan, Muhammad Salim	Pakistan
A.B. 1949, Albertus Magnus College		A.B. 1947, University of Punjab	
		Khrushchian, Ansel	Cybil
		Kizales, Adolphe Charles	D.C.

Kidd, John Martin	D.C.	King, James Cecil	
Kidner, Herbert Miller	Va.	A.B. 1949, A.M. 1950, The George Washington University	
A.B. 1921, Harvard University		King, Jan Allison	
LL.B. 1926, University of Pittsburgh	D.C.	King, John Nathaniel	
Kidney, Mary Elizabeth	Va.	King, Joseph Aloisius	
Kidwell, Stanley Slack, Jr.	Nebr.	King, Joseph Frederick	
Kiechel, Walter, Jr.		King, Leon Herbert	
A.B. 1941, University of Nebraska		King, Margaret	
LL.B. 1949, Yale University		King, Morton Lionel	
LL.M. 1950, The George Washington University	Va.	King, Myldred Martha	
Kieferle, Frederick Thomas	Pa.	King, Reta Marie	
Kiefman, Paul Franklin		A.B. 1915, West Virginia Wesleyan College	
B.S. 1951, American University	Pa.	A.M. in Ed. 1949, The George Washington University	
Kiel, Frank Wilson		King, Richard Joseph	
A.B. 1950, University of Pittsburgh	Fla.	King, Ruth Evelyn	
Kiem, Edwin Loveday	Ga.	B.S. in B.A. 1913, LL.B. 1916, University of South Dakota	
Kierbow, David Candler	D.C.	King, Sarah Jane	
Kightlinger, James Francis	Va.	King, William Alvin	
Kilday, Bernard Leo, Jr.	Calif.	B.S. 1951, University of Maryland	
Kilday, Claude Edgar	Ind.	King, William Binford	
Kilday, Marthada Vaughn	Wash.	Kingsbury, Betsy Susanne	
Kildea, Jack Harvey	D.C.	Kingsland, Daniel Hallock, Jr.	
Kiley, Margaret Ann		B.S. in E.E. 1947, Union College	
A.B. in Ed. 1951, University of Buffalo	Md.	and University	
Killgore, Frank Woodbury	D.C.	Kingsley, Paul L.	
Killgore, Robert Martin		B.S. 1937, Northwestern University	
B.S. 1947, Georgetown University	Ill.	M.S. 1940, University of California at Los Angeles	
Killham, Edward Leo		Kinnahan, Thomas Paul	
B.S. 1949, Northwestern University	Md.	Kinnear, John Breckenridge	
A.M. 1950, Columbia University	Ohio	Kimney, Marjude Jean	
Killian, Margaret Anne		Kimsey, Richard Gareth	
A.B. 1951, University of Maryland	Hawaii	Kinsley, James Richard	
B.S. 1949, Yale University		Kinsley, Robert Thomas	
Kim, Alexander Young Ha		B.S. 1949, Yale University	
A.B. 1949, University of Hawaii	Korea	Kinsman, Robert Gordon	
Kim, Daniel Taimook		A.B. 1952, The George Washington University	
B.D. 1941, Oberlin College	Hawaii	Kintzler, David Peter	
Kim, James		B.C.E. 1941, The George Washington University	
B.S. 1950, Georgetown University	Ala.	Kip, Rudolf Frederic, Jr.	
Kimberley, Richard Highland	D.C.	B.S. in E.E. 1941, Princeton University	
Kimberly, Elizabeth Caldwell	D.C.	Kippia, Dolores Etta	
Kimble, Eve G.	D.C.	Kipp, Louis Gertrude	
Kimsley, Betty Lou	D.C.	Kippine, Joseph Harding	
Kimsley, Mary Jane	D.C.	Kipp, Clarence Turner, Jr.	
Kimling, Robert Harry	Nebr.	B.S. 1952, American University	
Kimmel, Harold Dean	Tenn.	Kirby, James Chassey	
Kammerling, Richard William		Kirby, John Gundersleve	
Kinay, David	Turkey	A.B. 1949, University of the South	
A.B. 1941, University of Turkey	Ill.	Kirby, Lois Carole	
Kinderman, Eugene John		Kirby, Taylor Herman	
B.S. 1951, University of Illinois	Md.	A.B. 1947, Birmingham-Southern College	
Kindness, Thomas N.	Md.	Kirshner, Frank Carlyle	
A.B. 1941, University of Maryland	D.C.	B.S. 1948, The George Washington University	
Kinert, Lisa Henry	N.Y.	Kirk, Helen Rose	
King, Blomquist		Kirk, Michael James	
King, Ed Reuben	Tenn.	Kirkland, Byron E.	
B.S. 1916, United States Naval Academy		Kirkland, Purvis Ann	
King, Edward George	Md.	Kirkley, William Lloyd	
King, Emma Frances	N.Y.	B.S. 1946, United States Coast Guard Academy	
King, Joseph Lee	D.C.	Kirkpatrick, Howard Lawrence E.	
King, Grace Virginia	Pa.	Kirsch, Arthur David	
A.B. 1945, Indiana State Teachers College			
King, Henry Land Page, Jr.	Md.		
B.S. in E.E. 1948, University of Kansas	D.C.		
King, Hubert Graham			

# Students Registered

493

Kirshner, Janet Segal A.B. 1945, A.M. in Govt. 1949, The George Washington University	D.C.	Kling, Arthur B.S. 1950, University of Illinois	Ill.
Kirwin, Stanley Martin B.E.E. 1950, University of Minnesota	D.C.	Klingaman, William Langdon A.B. 1946, Dartmouth College	Md.
Kiswin, James Joseph III B.S. in E.E. 1949, University of New Hampshire	N.Y.	Klippel, Mary Jane A.B. in Govt. 1946, The George Washington University	Colo.
Kiser, Tharon Marie A.B. 1948, The George Washington University	N.H.	Klitensic, Maxine Foutes Klonowski, Bernard Peter	D.C.
Kishbaugh, Gloria Dawn A.B. 1946, University of Michigan	Md.	Klopman, Elias Kloski, Theodore Leonard	N.Y.
Kisseloff, Morton Kutler, Carolyn Mae	Mich.	Klosky, Kathryn Sue B.S. 1951, University of Maryland	D.C.
Kutler, James Paul Kutler, Cyril P.	Va.	Klovdahl, Gordon Jacob Klumfoot, Clarence Reuben	Va.
Kutler, M. Paul Kitsoulis, Michael Thomas	D.C.	Knapp, James P. Knapp, Robert Duane	Md.
Kitt, Sheldon Morton Kittredge, Wallace Randall	Md.	A.B. 1948, The George Washington University	N.Y.
Kittz, Murray Abraham B.S. 1949, New York University	Pa.	Knauf, Robert Clinton B.S. 1947, United States Naval Academy	Va.
Kitter, John Willis A.M. 1951, The George Washington University	D.C.	Knechtel, Joan Elizabeth Kneeland, Lilla Exley	Md.
Klasse, Robert Allen Klapp, Pete Patrick	Mass.	Kneer, Charles George B.S. 1949, Yale University	D.C.
Kleber, Doria Virginia Klebsch, Dolores M.	N.J.	Knight, Colette Lahier Knight, John Thomas	Va.
Klebsch, Janet Elizabeth Klein, Thomas Robert	Tex.	Knight, Katherine Hunsaker Knight, Merrill Donaldson III	D.C.
Kleinman, Aniel B.S. 1950, Ohio State University	Mich.	Knight, Sarah Evelyn Knight, Sylvia Marie	Va.
Klein, David Joel B.C.E. 1942, Cooper Union	Pa.	Knight, Mary Elizabeth Knipe, Peter Marshall	Ala.
Klein, David Meidel Klein, Ernest Joseph	Calif.	Kniskern, Peter Marshall Knoll, Raymond John	Va.
Klein, Heinrich Julius B.S. 1948, University of Massachusetts	Mich.	Knopp, Edna A.B. 1943, Brooklyn College	Pa.
Klein, Morris A.B. in Govt. 1949, The George Washington University	Mich.	Knorr, Francis George A.B. 1949, University of Pittsburgh	Calif.
Klein, Warner William Kloster, David	D.C.	Knott, Donald LaVerne Knott, Lucille	D.C.
Kline, Frank Carl, Jr. B.S. in P.E. 1948, The George Washington University	D.C.	Knott, Paul Lewis Knott, James Owen III	D.C.
Kliffert, Alexander Alfred A.B. 1947, St. Norbert College	Va.	Knott, John David Knowles, Myles Henry	Ga.
Kluge, George John A.B. 1947, The George Washington University	Utah	Knowles, Phyllis McCormick Knott, David Raywin	D.C.
Kluger, Walter Aaron A.B. 1947, The George Washington University	Va.	Knott, Elizabeth Laura Knott, Evelyn	Va.
Kline, Beverly A.B. 1949, Ursuline College	D.C.	A.B. 1950, University of Washington	Md.
Kline, Joseph Paul A.B. 1947, The George Washington University	D.C.	Knox, Kenneth Wales Knox, Paul Raymond	Calif.
Kline, Ralph Henry A.B. 1947, The George Washington University	La.	A.B. 1950, University of California	Md.
Kline, Raymond A. A.B. 1947, The George Washington University	D.C.	Knox, Robert, Jr. A.B. 1946, University of Pennsylvania	D.C.
Kline, Robert Charles B.S. 1951, Pennsylvania State College	Pa.	LL.B. 1948, Temple University Kinsler, Dan Hawkins	Va.
		Kinsler, Alvin B.C. B.S. 1947, B.M. 1948, M.D. 1949, University of Minnesota	N.I.
		Kinsler, M. S. Schaefer Kinsler, Michael George	D.C.
		Kinsler, Harry Patrick Kinsler, Dorothy Jane	D.C.
		Kinsler, Dorothy Elizabeth Kinsler, Dorothy H.	D.C.
		Kinsler, Leonard F. Brown B.S. 1948, University of California	D.C.
		M.S. 1949, Cornell University M.S. 1947, California Institute of Technology	D.C.



Koenig, Joseph William, Jr.	D.C.	Kostas, Stevens Peter	Ma.
Koetzle, W. Lee	Md.	A.B. 1947, Brown University	D.C.
Koslin, Irving Raymond, Jr.	D.C.	B.S. 1949, Georgetown University	D.C.
Kohl, Ruth Miriam	Pa.	Koster, Bernice Louise	D.C.
B.S. in Ed. 1951, Temple University	Va.	Koster, Teresa Mary	RI
Kohmann, William Alexander		Kostic, Milenu Dejan	
A.B. 1949, Southern Methodist University		Kotka, Fred Paul	
Koidan, Ruth	Md.	B.S. in M.E. 1942, Rhode Island State College	Ma.
Koivisto, Sulo Charles	Md.	Kotapish, William Robert	
Kojovan, Aredis Vahan	Mass.	A.B. 1950, A.M. 1951, University of Michigan	Pa.
Kolarkovskaya, George	Md.	Koten, Donald Elden	Pa.
Kolund, George Donald	Minn.	A.B. 1951, North Central College	Pa.
Kolushak, Michael	Conn.	Kotikoski, Helvi Mariatta	Pa.
Koskedy, Joseph George	Ohio	Kotz, Herbert Louis	Pa.
Kuloma, David Keith	D.C.	Koury, Enver Mousa	Pa.
Kuminski, John	Pa.	Koury, Eugene Thomas	D.C.
B.S. 1953, Pennsylvania State College		A.B. 1949, University of New Mexico	
Komienic, Barbara A.	D.C.	Koussaros, Harry George	Pa.
Komienich, Gertrude	Ill.	B.S. 1950, Albright College	Pa.
Komisa, June T.	D.C.	Koutras, George Anest	Pa.
Konaktshysky, Kyril Wassileff	D.C.	Koutras, Louis Anest	
Doctor of Political Science 1947, Innsbruck University, Austria	Pa.	Koutandreas, Peter Dionysius	Pa.
Kondrath, Robert Steven	Ohio	B.C.E. 1949, The George Washington University	Pa.
Konold, William George		Kouzel, Samuel Irwin	Pa.
B.E.F. 1949, Cornell University	Va.	Kouzes, Louis Mike	Pa.
Kunze, Barbara Gouvalas	Va.	Kouzes, Tom	Pa.
Kusile, George Grayson, Jr.	Fla.	A.B. in Govt. 1949, The George Washington University	Pa.
Kusker, John Leedoon	Va.	Kouznetsoff, Elizabeth	Pa.
Kuons, George Hill	Pa.	Kouznetsoff, Nicolas E.	
Kuons, Robert Aaron, Jr.	D.C.	Kovacevich, Ruth A.	Pa.
Kuons, Eleanor Leona	Ohio	Ed B. 1945, Northern Illinois State Teachers College	Pa.
Kupacka, Lorraine Mae	Md.	Kovach, Bernard Clement	Pa.
Kupeck, John Thomas	N.Y.	Kovach, Velimir Nicholas	Pa.
Kupeck, John Longin	Va.	B.S. 1948, University of Belgrade	Pa.
Kupell, Lawrence	N.Y.	Koval, George J.	Pa.
B.S. in C.E. 1950, Alfred University		A.B. 1949, Duke University	
Koplowitz, Daniel		Kovalek, Jane Louise	Pa.
B.S. 1957, College of the City of New York	Va.	Kover, Allan Norman	Pa.
Kopp, Leo L. Jr.		B.S. 1941, College of the City of New York	
B.S. 1942, University of Illinois	Md.	Kowalski, Walter Donald	Pa.
Koppelon, Florence	D.C.	Kozel, Alexander	Pa.
Kopstein, Felix Ferdinand		LL.B. 1958, The George Washington University	Pa.
A.B. 1949, A.M. 1951, University of Pennsylvania	D.C.	Kraemer, Dorothy Anne	Pa.
Korban, Major Billy	Pa.	Kraemer, William Ferdinand	Pa.
Korcheck, Stephen Joseph	Pa.	A.B. 1942, University of Delaware	Pa.
Korbell, Alfred John	Minn.	Kraft, Max Simon	Pa.
Korich, Joseph Edward	D.C.	B.S. 1950, University of Maryland	Pa.
Kosenblatt, Marvin A.	D.C.	Krakes, Gloria Boson	Pa.
Korenblatt, Shirley Ruth	D.C.	Kraker, John Edward	Pa.
Korn, Norman		Kramer, Carl Aaron	Pa.
B.S. 1950, The George Washington University	D.C.	Kramer, Edith Nash	Pa.
Kornhauser, Alvin	Md.	Kramer, Joshua	Pa.
Kornis, Virgil Eben		Kramer, Julian	Pa.
B.S. 1959, United States Naval Academy	N.J.	B.S. 1947, College of the City of New York	Pa.
Koronakos, Ann	N.Y.	Kramer, Marvin Lewis	Pa.
Korpeck, Jerome Eli		B.S. 1951, The George Washington University	Pa.
A.B. 1947, University of Rochester	Calif.	Kramer, Norman Clifford	Pa.
Konan, Charles	Iowa	B.S. 1948, The Citadel	Pa.
Kosek, Don Carl		M.S. 1953, The George Washington University	Pa.
A.B. 1951, Coe College	Md.	Kranatov, Julia Helen	Pa.
Koskan, Loma McNeill	Mich.	Kranzler, Theodore	Pa.
Koski, Arthur Eugene		Krasny, John Frederick	Pa.
B.S. 1944, Northern Michigan College	Va.	B.S. 1948, University of Denver	Pa.
Koski, Irma Rachel	Wis.		
Koski, Raymond James			

### Students Registered

495

Students Registered		495
Kraus, Bernard George		
Kraus, Jerome		
A.B. 1942, University of Chicago		
B.S. in E.E. 1947, University of Illinois		
Kraus, Stephen Victor		
Kraus, Teresa C		
Kravez, Herman		
Krebs, Frances Jeanne		
A.B. 1947, University of Oregon		
Krebs, Henry Charles		
A.B. in Govt. 1949, The George Washington University		
Krebs, Jack		
B.S. 1948, Massachusetts Institute of Technology		
Kreisel, Mary Lou		
A.B. 1946, A.M. 1950, The George Washington University		
Krein, Arthur Nicholas		
B.S. 1949, Case Institute of Technology		
Kremen, Jerome		
A.B. 1948, Johns Hopkins University		
Krensky, Doris Pike		
Krenzelin, Julie Anita		
Kreuzer, Kay Ann		
Kreuzer, Eugene Michael		
Kreiff, Irvin		
B.S. 1951, Pennsylvania State College		
Kuchelsky, Abe		
Kuck Lillian		
B.S. in M. 1933, University of Illinois		
Kuehnelt, F. Virginia		
Kuehnelt, Harry, Jr.		
Kuehnelt, Arlene Elizabeth		
A.B. 1941, Brooklyn College		
MS 1949, Brown University		
Kuehnelt, Samuel		
Kuehnelt, Herbert		
A.B. 1948, Syracuse University		
A.M. 1949, University of Pennsylvania		
Kuehnelt, Thomas		
Kuehnelt, William Aaron		
B.S. 1948, Georgetown University		
MS 1949, The George Washington University		
Kuehnelt, John		
A.B. in Govt. 1951, The George Washington University		
Kuehnelt, Oswald Karl		
B.S. 1948, University of Minnesota		
Kuehnelt, Thomas		
A.B. 1947, St. John's College		
Kuehnelt, August		
A.B. 1944, Carnegie Institute of Technology		
Kuehnelt, Eugene Rose		
Kuehnelt, Lawrence Roy		
Kuehnelt, Nathan		
Kuehnelt, Arthur Frank		
B.S. 1947, University of Chicago		
Kuehnelt, John Richard		
A.B. 1948, The George Washington University		
Kuehnelt, Mary Helen		
A.B. 1949, University of Vermont		
Kupa, Andrew Thomas		
Kupp, Rose Mary		
Kryshalsky, Jaroslaw W. Sewolod		
Kubanski, Bernard Andrew		
Kuvera, Frank Charles		
B.S. in M.E. 1951, Purdue University		
Kudatsky, Nathan		
A.B. in Ed. 1950, The George Washington University		
Kudshy, Morton		
Kudshy, Lois Millicent		
Kuh, Mimi		
Kuhl, Arthur Mathias		
A.B. in Govt. 1950, The George Washington University		
Kuhl, George Charles		
Kuhlman, Winfield Briggs		
Kuhnke, Phyllis Mae		
Kuhns, James Gregory		
Kuhtens, Fredrick Henry		
B.S. 1950, Union College		
Kuklik, Joseph A		
B.S. 1949, Pennsylvania State Teachers College, Johnsbury		
Kuklik, Joseph Thomas		
Kull, Hale Marguerite		
Kulla, Abraham Lincoln Acker		
Kullback, Joseph Henry		
Kulp, Jean Evelyn		
Kump, Mary Gamble		
A.B. 1950, West Virginia University		
Kunak, Stephen William		
A.B. 1941, The George Washington University		
Kunze, Mary Louise		
Kunz, George Emil		
Kunze, Ray A		
MS 1951, University of Chicago		
Kunze, Marie		
B.S. 1949, College of the City of New York		
A.M. 1951, New York University		
Kupperman, Morton		
B.S. 1950, College of the City of New York		
A.M. 1950, The George Washington University		
Kurkjian, Badrig Malcolm		
B.S. 1951, Massachusetts Institute of Technology		
Kurkjian, Alice		
B.S. 1952, Wilson Teachers College		
Kurkjian, Lillian Paul		
Kurkjian, Stanley June		
Kursh, Robert Francis		
Kurth, William Herman		
A.B. 1949, University of Virginia		
Kurth, Grace Weston		
B.S. 1946, Wilson Teachers College		
Ed.M. 1951, University of Maryland		
Kurth, Stanley Morton		
B.S. 1949, M.S. 1950, The George Washington University		
Kurth, William Louis		
Kurth, Alvin Julian		
A.B. 1951, University of Maryland		
Kushner, Harry		
Kushnitsky, Earl Hishahi		
Kurys, Edward Joseph		
Kuzio, Paul		
Kvam, Ernest Ludwig		
A.B. 1947, University of Washington		
Kyle, Henry Charles		
Kyle, Vida W.		

Kyle, Wood Barbee B.S. 1946, Texas Agricultural and Mechanical College		Tex.	Lambert, Margaret Lucille A.B. 1951, The George Washington University	
Kyllonen, Allen William		Pa.	Lambert, Robert Warren A.B. 1942, De Pauw University	
Kyne, Peter John		D.C.	Lambert, Sam May B.S. 1935, A.M. 1938, University of West Virginia	
Kyse, Warren Edward		N.J.	Lamberton, Bernice Gieves B.S. 1937, Rhode Island State College	
Kyster, Walter Eugene B.C.S. 1950, University of Georgia		Ga.	A.M. 1911, Brown University	
L				
Lacey, Frank Marshall		Ky.	Lambrecht, Frank E. Lambros, Philip Russell	
Lacey, Hubert Nathaniel		Va.	A.B. in Govt. 1948, The George Washington University	
Lacey, Mary F.		Md.	A.M. 1951, University of Chicago	
Lachman, Erwin John B.S. 1947, University of Pennsylvania		D.C.	Lambros, Vasilios Simos M.D. 1939, Georgetown University	
Lachman, Philine Polak D.L. 1946, University of Amsterdam		D.C.	Lamore, Donald Hart A.B. 1948, University of Maryland	
Lacombe, Harold		Pa.	M.S. 1951, Cornell University	
Lacomis, Edward L. B.S. 1948, University of Scranton		Md.	Lamore, Marie Berthe LaMotte, Peter	
LaCoste, Yvonne		D.C.	Lamoureux, Wilma Ann Lamphiear, Donald Edmond	
LaCovis, Mary Anne		Va.	A.B. in Govt. 1950, The George Washington University	
Lacy, Patricia Ann		Va.	Lampira, Helen Joan Lampros, Aguilao Gus	
Ladd, Dennis W.		D.C.	A.B. 1949, University of Tennessee	
Laditsky, Bernice Edythe		Del.	Lancaster, Georgina C. A.B. 1947, A.M. 1948, The George Washington University	
Lafferty, Frances H.		Calif.	Land, Ernest Henry A.B. 1950, Illinois College	
Laffin, Edward John		N.J.	Landers, Mary Ann Landes, George Hadley, Jr.	
La France, Anna Egan A.B. in Govt. 1946, The George Washington University		D.C.	B.S. 1950, Wilson Teachers College	
Lagerquist, Philip Debold A.B. 1941, Yale University		D.C.	Landes, Melvin Bowman A.B. 1930, McPherson College	
Lagney, Richard Marion		N.Y.	Landfield, Mary Jane Landis, Theodore F.	
LaGuardia, Alfred Attilio A.B. 1949, The George Washington University		La.	Landon, Elizabeth Landis, Edna Marie	
Laguillon, Leslie Cyril B.B.A. 1951, Tulane University		Va.	A.B. 1940, Iowa State Teachers College	
LaGumbay, Wenceslao Rancap B.S.C. 1939, Far Eastern University	Philippines	Va.	Landsman, Robert Samuel A.B. in Govt. 1951, The George Washington University	
LL.B. 1951, Manuel Luis Quezon School of Law		N.Y.	Lane, Elizabeth Mary Lane, Elizabeth Walker	
Laine, Roland Oscar B.S. 1939, North Carolina State College		D.C.	Lane, Francis Edward Lane, Frederick William	
LL.B. 1950, The George Washington University		Md.	B.S. 1930, Baker University	
Larosa, Charles Peter B.S.S. 1949, Georgetown University		Ala.	Lane, Jack Lane, Lyle F.	
Larja, Brano LL.D. 1942, University of Czechoslovakia		India	A.B. 1950, University of Washington Lane, Arthur Rufus, Jr.	
Lake, John Marshall		Va.	A.B. 1947, A.M. 1949, The George Washington University	
Lake, William Rudolph		Conn.	Lang, Joan Clark Lang, John Carl	
Lal, Ram A.B. 1947, Punjab University		Ill.	A.B. in Ed. 1946, North Dakota State Teachers College, Valley City	
Lalor, David Paul		Calif.	A.M. in Ed. 1949, The George Washington University	
Lalor, Ruth Evelyn		Ga.	A.M. 1949, Northwestern University	
Lamar, Harold Thomas A.B. in Govt. 1948, The George Washington University		D.C.	Lang, William Adams Langbecker, Roland Randolph	
LaMar, Harry Howard B.S. 1939, Indiana Technological College		Va.	Langbecker, Ruth Eleanor B.S. 1949, Teachers College of Connecticut	
Lamb, Denny Virginia				
Lambert, Francis Lincoln B.S. 1949, M.S. 1951, The George Washington University				
Lambert, Lillian Merle B.S. 1934, Madison College				



# Students Registered

497

Lange, William Henry A.B. 1950, New York University	N.Y.	Larson, Walter Julius	Ind.
Langerman, Elaine Mildred A.B. in Ed. 1950, The George Washington University	D.C.	LaRue, Robert Emmett	D.C.
Langenbeck, Earl Henry B.S. in C.E. 1944, University of Missouri	Md.	Lasell, Helen Elizabeth	D.C.
Langford, Joan Elin		Lash, Raymond Aloysius, Jr.	Va.
Langford, John Walter		Lasky, Raymond	Md.
Langham, Dwight William B.S. in Ed. 1932, University of Illinois	D.C.	Lasser, Suzanne Charlotte	Va.
Langley, Thomas Semans A.B. 1941, Ursuline College	Md.	Latham, Richard Bruce	Md.
Langley, Verna Ruth B.M. 1919, University of Oklahoma	D.C.	Latimer, George Webster	Md.
Lansett, Samuel Husbands, Jr. A.B. 1951, Oberlin College	Okla.	Latino, Jennie Mary A.B. 1951, The George Washington University	Mass.
Lanning, Stephen Joseph A.B. 1930, LL.B. 1942, Harvard University	Tenn.	La Torre, Frances Klein	Ohio
Lancos, Michael	Va.	La Torre, Vincent Thomas	N.Y.
Landedale, Mary Louise A.B. 1928, Monmouth College	D.C.	Latrobe, William Claiborne B.S. 1925, United States Naval Academy	Md.
Lant, Ruth Cameron A.B. 1950, The George Washington University	Va.	M.S. 1932, University of California	
Lapin, Earl Michel A.B. 1950, The George Washington University	D.C.	Latos, George Christ	Va.
Lapin, Frances Bryant B.S. 1949, University of Maine	N.Y.	Latta, James Clay, Jr.	Md.
LaPointe, Joseph Claude B.S. 1949, University of Maine	D.C.	Lau, Jose Felipe	Nicaragua
Lapson, John Eldridge LaPointe, Gertrude Cecelia	Md.	Laubinger, Frank Herbert A.B. in Ed. 1951, The George Washington University	Md.
Laracoe, Jacqueline Dereix A.B. 1949, Brown University	D.C.	Laubscher, Lawrence Edwin	D.C.
Laric, Ivan Gerald A.B. 1949, Brown University	D.C.	Lauck, Albert Francis B.S. 1951, University of San Francisco	Calif.
Larimore, Alanson Lee A.B. 1941, Washington College	Hart	Lauder, Robert Bruce, Jr.	N.Y.
Larson, Oliver Kusler A.B. in Ed. 1939, The George Washington University	D.C.	Lauffer, Claire Lucille	D.C.
Larkin, Alfred Joseph B.S. 1927, Colgate University	Md.	Lauffer, E. Erica	D.C.
Larkin, James Ezelius III A.M. in Ed. 1950, The George Washington University	D.C.	Laughery, Elsie Florence	D.C.
Larkin, Patrick Joseph B.S. in F.S. 1950, Georgetown University	Va.	Laughlin, Barbara Jean	D.C.
Larick, Laura Cummings A.B. 1930, Goucher College	D.C.	Laughlin, Charles Russell, Jr.	Va.
Larick, Nancy Gray A.M. 1937, Columbia University	Ecuador	Laughlin, Richard Thomas B.S. in Ch.E. 1949, University of Notre Dame	N.Y.
Larson, August A.B. 1942, Princeton University		Laukatig, Walter Anthony	Md.
Larson, Charles Howard A.B. 1942, Princeton University	Mich.	Laurie, Charles Theodore A.B. in Govt. 1951, The George Washington University	Calif.
Larson, Gordon Floyd A.B. 1946, A.M. 1947, University of Minnesota	Iowa	Lavagnano, John Louis	
Larson, Lloyd Warren A.B. 1949, University of Montana	D.C.	Lavigne, Merlin James	D.C.
Larson, Robert LeRoy A.B. 1949, University of Montana	Ind.	Law, Linda Lou	La
		Law, Russell Lewis B.S. 1950, Seton Hall College	D.C.
		Law, Susan Byrdella A.B. 1951, The George Washington University	D.C.
		Lawless, William Josselyn, Jr.	
		Lawlor, James Jay	Va.
		Lawrence, Aileen	Va.
		Lawrence, Derek Peter B.M.E. 1948, Clarkson College of Technology	Va.
		Lawrence, Edmund Wallace	
		Lawrence, Frank Edward	N.Y.
		Lawrence, Frederick Rising	D.C.
		Lawrence, James F., Jr. B.S. 1941, University of North Carolina	N.Y.
		Lawrence, John Craig B.S. 1950, United States Naval Academy	Va.
		Lawrence, Lester Albright	Md.
		Lawrence, Myra Jeanne	
		Lawrence, Simon S., Jr. B.S. 1949, University of North Carolina	Va.
		Laws, Bolitha James, Jr. A.B. 1951, Dartmouth College	D.C.
		Lawson, Howard Ringer A.B. 1950, The George Washington University	Va.
		Lawson, Ruth	Va.

Layman, Richard Paul	Pa.	Lee, Frances	D.C.
B.S. 1950, Pennsylvania State College		B.S. 1951, Creighton University	
Layne, Edward Booker, Jr.	D.C.	Lee, George	
A.B. 1951, University of Maryland		Lee, Harold Allen	
Layne, Ennis Cecil, Jr.	Va.	A.B. 1938, The George Washington University	
B.S. 1950, The George Washington University		LL.B. 1940, LL.M. 1941, Northwestern University	
Layton, Cleo Franklin	Pa.	Lee, Hei Kit	
Lazaroff, Philip	D.C.	Lee, Helen	
Lazor, Dorothy Barbara	Pa.	Lee, Joan	
Lazowski, Jennie Helen	Mass.	Lee, John Brady	
Leabhart, John William, Jr.	Va.	Lee, John Franklin	
Leach, Arthur Russell	Va.	A.B. 1950, Brigham Young University	
Leadbetter, Patricia Alice	D.C.	Lee, Leroy Linwood	
A.B. 1951, Smith College		A.B. in Govt. 1948, The George Washington University	
Leader, John Louis	D.C.	Lee, Lily Kwan Keui	
B.S. 1940, Canisius College		B.S. in P.E. 1949, The George Washington University	
LL.B. 1940, Georgetown University	D.C.	Lee, Lloyd Wilson	
Leahy, Jean Marie	D.C.	Lee, Lois	
Leahy, John C.	Va.	Lee, Murray Kent	
Leahy, William Vincent Crahan	Mich.	A.B. 1951, The George Washington University	
A.B. 1944, University of Pennsylvania		Lee, Newton Hunt, Jr.	
A.M. 1950, The George Washington University		Lee, Randolph Wilbur	
Leapley, William Trudgeon	D.C.	A.B. 1947, University of Colorado	
B.S. 1943, Western Michigan College		Lee, Raymond	
Lear, Rita Ann	Colo.	B.S. 1948, Pennsylvania State College	
Leard, Emil Watson	D.C.	Lee, Richard Hamilton	
A.B. 1910, Mercer University		A.B. 1949, Denver University	
LL.B. 1914, University of Georgia	Mich.	Lee, Robert Arthur	
Learnman, John Frank		Lee, Shu Lam	
B.S. in M.E. 1949, University of Michigan	Mich.	Lee, Sik Ban	
Learnman, Patricia Lattimer		Lee, Sung Pum	
A.B. 1949, West Virginia University	N.Y.	Leech, Gladys Gertrude	
Leary, John Francis	Mass.	Leedy, Howard Massey	
Leary, John Patrick	D.C.	B.S. in Ed. 1944, A.M. 1937, West Virginia University	
Leary, Patrick J.	N.Y.	Leeland, Norma Dolores	
Leavitt, George Albert, Jr.	D.C.	Leeming, John Howland	
Leavitt, Raymond Boomer		B.S. 1950, Yale University	
B.S. 1933, United States Naval Academy	Pa.	Leese, Bernard McKenzie	
Leavitt, Robert	N.Y.	Leese, Marilyn Louise	
Leary, Horace James	D.C.	Leetch, Virginia Douglas	
Leba, Theodore, Jr.		Lefferts, Miles Search	
B.S. 1934, C.E. 1940, Newark College of Engineering		Leffingwell, Thomas Cullen	
M.S. 1938, New York University	La.	Leikowitz, Saul	
LeBlanc, Joseph Lonol	N.Y.	B.S.S. 1940, College of the City of New York	
LeBlanc, Pierre Alexander III	D.C.	Leftwich, Francis Walton	
Lebowitz, Marilyn Sylvia	N.Y.	LeGagnoux, Yves Andre	
LaBrecht, Richard		Leger, Loren Dewey	
A.B. 1950, The George Washington University	S.D.	B.S. 1948, Baldwin-Wallace College	
Lechner, Naida Marjorie	D.C.	Legette, Lubin Poe	
Lecky, Robert Sterling	Md.	A.B. 1940, North Carolina	
Leckie, Joseph Roland		Lehman, John Henry, Jr.	
B.S. 1948, University of Maine	Calif.	Lehnert, Robert Conrad	
McB.A. 1947, Harvard University	Va.	Leibbrandt, Robert Clinton	
LeClerc, James Franklin	Miss.	Leiby, Frederick	
Leckner, Julia Elizabeth		B.S. in B.A. 1951, Georgetown University	
A.B. in Ed. 1944, The George Washington University	Pa.	Leipski, Arline Helen	
Lecky, John Edward	Va.	Leishman, Merlin Ricka	
Lederer, Ruth Klein		B.S. 1949, Utah State Agricultural College	
Ph.D. 1948, University of Iowa	Va.	Leith, Carroll Irvin, Jr.	
Lee, Anne Wright	Va.	B.S. 1948, Virginia Polytechnic Institute	
Lee, Barbara Anne		Leith, Theodora Hutton, Jr.	
A.B. 1945, Immaculata College	Pa.	B.S. 1949, University of Maryland	
Lee, Carol Dauler	Korea		
Lee, Chung Hoon	D.C.		
Lee, Dorothy			

# Students Registered

499

Leberich, Joseph John B.S. 1941, Pennsylvania State College	Md.	Levin, Harold Arthur A.B. 1940, New York University	N.Y.
Lello, Anne J. B.S. 1945, University of Minnesota	D.C.	M.S. 1947, University of Denver	
LeMay, James Russell		Levin, Jerome M.S. 1949, College of the City of New York	D.C.
LeMay, Mary Elizabeth	Md.	Levine, Alfred Bernard B.S. in E.E. 1946, Cornell University	N.Y.
Lembeck, Leonard Anthony B.S. 1942, Northwestern University	N.Y.	M.E.E. 1949, Rensselaer Polytechnic Institute	
Lemont, Milton Samuel	Calif.	Levine, Arnold Emanuel	D.C.
Lemuel, Pearl Marie		Levine, Herbert	D.C.
Lence, Winston Higbee B.S. 1941, University of Utah	Md.	B.S. 1947, Brooklyn College	
Lenchitz, Charles A.B. 1940, Brooklyn College	D.C.	Levine, Irving Seth B.S., M.S. 1941, Massachusetts Institute of Technology	N.Y.
Lendenmann, Ernest Charles, Jr.	Utah	Levine, Isadora	
Lenz, Mary		Levine, Martin Arnold A.B. 1943, Brown University	N.J. Mass.
Leo, Marcette Agathe	Va.	Levine, Samuel A.B. 1946, Brooklyn College	N.Y.
Leo, Albert Louis A.B. 1946, Catholic University of America	D.C.	Levinson, Eukensia Huntley	Va.
Leon, Grace Veronica	Pa.	Levinson, Alan Martin	Va.
Leonard, Edmond James B.S. 1951, College of the Holy Cross	D.C.	Levinson, Alan Marvin	D.C.
Leonard, Eugene Anthony A.B. in Govt. 1950, The George Washington University	Del.	Levinson, Arnold Seymour	Va.
Leonard, Frederic Adams B.S. 1944, M.S. 1948, University of Maine	Va.	Levinson, Gladys B.S. in E.E. 1949, University of Illinois	Ohio Ill.
Leonard, Orel Klein A.B. 1949, The George Washington University	Md.	Levinson, Lawrence Stanley B.S. 1948, Rutgers University	N.Y.
Leone, Mary Lucy B.S. 1944, Pennsylvania State Teachers College, Westchester	D.C.	A.M. 1949, Columbia University	
Leone, Russell Frank	Pa.	Levinson, Priscilla Levy A.B. 1948, Hunter College	Md.
Lerner, Marvin Anne		Levitan, Simon Wolfe B.S. in Eng. 1922, University of Pennsylvania	D.C.
Lerner, Esther B.	Va.	Leviton, Daniel	
Lerner, Lawrence Eli	Ohio	Levitov, Edith Sylvia A.B. 1949, The George Washington University	D.C. Va.
Lesnowitz, Louis Fmery A.B. in Govt. 1951, The George Washington University	D.C.	Levitsky, Leon Robert B.S. 1951, Mullienberg College	Pa.
Leslie, Charles Walton, Jr.	D.C.	Levy, Charles Kinastley B.S. 1948, The George Washington University	D.C.
Leslie, Eugene Cyril B.S. 1939, Oregon State College	Va.	Levy, Charles William B.S. in M.E. 1936, New York University	Va. N.J.
Leslie, James Booth, Jr. B.S. in C.E. 1927, Alabama Polytechnic Institute		M.S. 1949, Stevens Institute of Technology	
Lesley, Samuel Kenric B.S. 1945, United States Military Academy	D.C.	Levy, Leon	D.C.
LL.B. 1951, Harvard University		Levy, Louis Werhner A.B. 1948, Radcliffe College	Md.
Leung, Gladys Sinclair A.B. 1951, University of Maryland	Md.	Levy, Priscilla A.B. 1948, Hunter College	N.Y.
Lester, Donald Ralph B.E.E. 1949, Rensselaer Polytechnic Institute	Va.	Levy, Steven Everett	
Levy, George Buck	N.Y.	Lew, Jew Chuck	D.C.
Levy, May		Lewenberg, Hae	D.C.
Levy, V.		Lewin, John Max A.B. 1949, Roosevelt College	D.C. Ill.
Levy, Victor Ritzen-dollar, Jr.	D.C.	A.M. 1951, University of Chicago	
Levy, Eugene Albert	D.C.	Lewis, Alan Mead	
Levy, Ethel B.S. 1945, Brown University	N.J.	Lewis, Alice Elizabeth	Va.
Levy, Neil Joseph	R.I.	Lewis, Cynthia Bird	Md.
Levy, Elizabeth Burton		Lewis, David L.	D.C.
Levy, Richard Dean	Va.	Lewis, Edward A.B. 1951, The George Washington University	Calif. D.C.
Levy, Charles Robert	Md.	Lewis, Eldon Earl	
Levy, Marie	N.Y.	Lewis, George Allan A.B. 1950, Wilkes College	Md. Pa.
Levy, Charlotte Ruth	D.C.		



Lewis, Glenn Paul	Ohio	Liedtke, Elisabeth Joan	D.C.
Lewis, Harvey Daniel	Va.	Lief, Donald Wolfe	D.C.
A.B. 1924, Wofford College		Lief, Joan Ellen	D.C.
A.M. 1938, University of South Carolina		Lien, John Pershing	N.D.
Lewis, Irene	Kans.	A.B. in Govt. 1951, The George Washington University	Ma.
A.B. 1933, A.M. in H.E. 1937, The George Washington University		Liepina, Rita Gundega	Ma.
Lewis, Isabelle Sheetz	Va.	Lightman, Evelyn Rhea	Alaska
A.B. 1948, Bridgewater College		Lightner, Celia Edith	
Lewis, Jack Collins	Md.	Lightwood, Milton Hawk, Jr.	Ma.
A.B. 1951, The George Washington University		A.B. 1950, University of Alaska	
Lewis, James William	Va.	Likely, Gwendolyn Dale	
A.B. 1950, Bridgewater College		B.S. 1944, University of Maryland	
Lewis, John Warren	D.C.	A.M. 1951, The George Washington University	D.C.
A.B. 1948, The George Washington University		Lillock, Helen Patricia	
Lewis, Kathleen Moran	Va.	Lilien, Charles Ernest	D.C.
Lewis, Kennison Marvin	W.Va.	A.B. in Govt. 1950, The George Washington University	Ma.
B.S. in Ed. 1952, Madison College		Lillienkamp, Virginia Ruth	
Lewis, Lunsford Harland	D.C.	Lilja, Robert Edwin	Finland
Lewis, Mary Alice	D.C.	A.B. 1950, University of Minnesota	Idaho
Lewis, Robert Baughman	Md.	Liljelund, Aili Matilda	
A.B. 1941, University of Western Ontario		Liljenquist, Lorenzo Blaine	D.C.
Lewis, Robert Oscar	Va.	B.S. 1938, University of Idaho	Va.
B.S. 1947, George Pepperdine College		Lillard, Joseph Edgar	
Lewis, Virginia Emerson	Md.	Lillard, Kathleen Flester	N.C.
A.B. 1955, Washington University		A.B. in Ed. 1948, The George Washington University	Pa.
LL.B. 1941, The George Washington University		Lilley, Aaron Lycurgus	Ma.
Lewis, William	Md.	Lilley, Horace Clinton	Pa.
Lewis, William Hubert	Va.	Lilliefors, Hubert Whitman	
A.B. in Govt. 1951, The George Washington University		Lilly, Richard G.	Ma.
Lewitz, Zelda	D.C.	M.S. in E.E. 1951, University of Pennsylvania	
Levden, Thomas Joseph	Pa.	Lima, Joseph	Mexico
B.S. 1950, St. Joseph's College		B.S. 1950, American University	
Leydet, Beatrice Anne	Mass.	A.M. 1951, The George Washington University	
A.B. 1951, Wellesley College		Limon, Graciela Roldan	Va.
Leyshon, Webster Claudwick	Md.	B.S. 1948, University of Mexico	
L'Hommiedieu, Samuel Joseph, Jr.	D.C.	Lina Weaver, Paul Glenwood, Jr.	Calif.
B.S. 1947, University of Maryland		A.B. 1951, Duke University	
LL.B. 1951, The George Washington University		Lincoln, Lionel Osborn	Va.
Li, Louise Elizabeth	Va.	Lind, Vincent Eugene	Pa.
Liams, Edward Yin	D.C.	Lind, William Edmund	D.C.
Libby, Edward Kelway	D.C.	Lindam, Dolores Consuelo	D.C.
A.B. 1951, Haverford College		Lindall, Alton Lothar, Jr.	Pa.
Libby, John Charles Kelway	D.C.	Lindamood, Barbara Ann	Va.
A.B. 1945, Haverford College		Lindauer, Edwin Raymond, Jr.	D.C.
Liberato, Venancio Quintano	Md.	Lindbeck, Lydon Harold	Pa.
A.B. 1948, University of Maryland		Linde, Annie Andries	N.Y.
Liberty, Cyril Jean	D.C.	Lindeman, Robert Hammond	
A.B. in Govt. 1950, The George Washington University		Linden, Betty Hildesley	
Libove, Leon	D.C.	Linden, Robert Joseph	
L. Bresberger, Mary Alice	D.C.	Lindley, Claude Joe	N.C.
Liden, Conrad Homer	Md.	A.B. 1947, University of Missouri	
B.S. 1947, M.S. 1949, University of Maryland		A.M. 1948, State University of Iowa	N.Y.
Lidky, Marion David	N.Y.	A.M. 1948, State University of Iowa	
B.S. 1950, The George Washington University		Lindner, Raymond John	
Lidstone, Nancy Adair	Va.	Lindner, Thaddeus Alphonse	
Lidstone, Gerald Louis	Va.	A.B. 1951, The George Washington University	
A.B. 1950, Yale University		Lindow, Fyn Thompson	
Lieber, Simon Karlman	La.	Lindsay, Virginia Lee	
Lichten, Julius	D.C.	Lindbeth, Chas. Oliver	
B.S. 1950, College of the City of New York		Lindsay, Henry Earl	
A.M. 1951, Brooklyn College		A.B. 1951, Texas Christian University	
		Lindsey, Robin Marion	
		A.B. 1950, Stanford University	
		Lindquist, Mary Lee	
		A.B. 1951, The George Washington University	

# Students Registered

501

Linenthal, Joan King A.B. 1949, Middlebury College	Ill.	Lockhart, Donald Wallace	Pa.
Liner, Dorothy Lord B.S. 1951, Wilson Teachers College	Va.	Lockhart, Elizabeth Berkeley A.B. 1927, College of William and Mary	Va.
Linfield, Robert Frederick B.M. 1937, West Virginia University	Mont.	Lodato, Norman J.	N.Y.
Linger, Roderick Benton M.M. 1946, University of Michigan	W.Va.	Lodato, Paul A.	Md.
Link, Eric A.B. 1949, University of Rochester	Va.	Loddo, Madeline Liberty	Pa.
Link, Robert Wendell B.S. 1951, The George Washington University	D.C.	Loe, Myron L. A.B. 1951, The George Washington University	D.C.
Linkins, Anna Nell B.S. 1949, Wilson Teachers College	N.J.	Loehler, Linda Jane	D.C.
Linkley, Doris Louise B.S. in Ed. 1949, Wilson Teachers College	D.C.	Loesberg, Alan S. B.S. 1950, Georgetown University	D.C.
Lipner, Ann Marie B.C.E. 1950, Catholic University of America	D.C.	Logan, Jerome Halstead A.B. 1949, Yale University	D.C.
Lipowitz, Marvin H. A.B. 1950, Temple University	D.C.	Logan, Joseph Albert	D.C.
Lipovsky, Frank Joseph B.M.E. 1940, The George Washington University	Pa.	Lohes, Arnold Edward	Pa.
Lipsett, Raymond Franklin B.M.E. 1940, The George Washington University	D.C.	Lohr, Harry Paul	Pa.
Lipp, Thomas Perry A.B. 1947, New York University	D.C.	Loizeaux, Paul Herbert	Md.
Lipsky, Harold A.B. 1951, The George Washington University	N.J.	Lomas, Leonard Luther, Jr. B.S. 1947, Virginia Military Institute	Va.
Lita, Ellen Lydia A.B. 1941, The George Washington University	D.C.	Lonberger, Stanley Thomas	D.C.
Liu, Emanuel Herbert B.S. 1949, Ohio State University	Md.	Londis, Louis James	N.Y.
Liu, George B.S. 1949, Ohio State University	Ohio	London, Arthur	Md.
Liu, Lewis Aloysius A.B. 1949, Vassar College	D.C.	London, Eleanor Lorraine A.B. 1950, Indiana University	Conn.
Litke, Louis A.B. 1949, Vassar College	D.C.	London, Louise A.B. 1947, Vassar College	Va.
Little, Eleanor Grier A.B. 1949, University of Maryland	N.J.	Long, Alexander	D.C.
Little, Jeanne Hahner A.B. 1949, University of Maryland	D.C.	Long, Basil Ellis A.B. in Govt. 1950, The George Washington University	Va.
Little, Robert Paul A.B. 1949, University of Maryland	Md.	Long, Billie Ketchie	D.C.
Little, Carolyn Floy A.B. 1949, University of Maryland	D.C.	Long, Charles W., Jr.	Fla.
Little, Ann Lee A.B. 1949, University of Maryland	D.C.	Long, Dean Ronald	Md.
Little, Anne A.B. 1949, University of Maryland	D.C.	Long, Gerard Julius	D.C.
Little, Charles Coker College A.B. 1949, University of Maryland	D.C.	Long, John Martin B.S. 1950, Pennsylvania State Teachers College, Lock Haven	Pa.
Little, Richard Richard A.B. 1949, University of Maryland	D.C.	Long, Melvin Eugene	Pa.
Little, Rosa Domingo A.B. 1949, University of Maryland	D.C.	Long, Nancy Catherine	Md.
Little, Charles Edward A.B. 1949, University of Maryland	D.C.	Long, Nancy Kathleen A.B. 1951, University of Maryland	Va.
Little, Maryland State Teachers A.B. 1949, University of Maryland	D.C.	Long, Orin A.B. 1941, University of Chicago	N.Y.
Little, Albert Lawrence, Jr. A.B. 1949, University of Maryland	D.C.	Long, Patrick J. LL.B. 1950, LL.M. 1955, St. John's University	N.Y.
Little, Joseph, Jr. A.B. 1949, University of Maryland	D.C.	Long, Thomas Edward A.B. 1947, University of Southern California	Va.
Little, Henry A.B. 1949, University of Maryland	D.C.	Long, Virginia Rose A.B. 1947, University of Southern California	Va.
Little, William James A.B. 1949, University of Maryland	D.C.	Long, Edmund Herman	S.D.
Little, Roy W. Jr. A.B. 1949, University of Maryland	D.C.	Long, Francis John	S.D.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Don Woodward A.B. 1951, The George Washington University	Md.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Frank Man B.F.E. 1951, Cornell University	N.Y.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Andrew P. A.B. 1949, University of Maryland	N.Y.
Little, John A.B. 1949, University of Maryland	D.C.	Long, William Tortike A.B. 1949, University of Maryland	N.Y.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Joseph Henry B.S. in C.E. 1945, University of Maryland	Va.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Arthur Robert B.S. 1948, Columbia University	Va.
Little, John A.B. 1949, University of Maryland	D.C.	Long, James A.B. 1949, University of Maryland	D.C.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Fred A.B. 1949, University of Maryland	N.M.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Lawrence Cole A.B. 1949, University of Maryland	Va.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Madeline M. Landa A.B. 1949, University of Maryland	D.C.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Valmore Egan A.B. 1949, University of Maryland	D.C.
Little, John A.B. 1949, University of Maryland	D.C.	Long, Marion Wilson	Pa.

Lorenz, Robert Jay	Va.	Lucas, Florence Ann	Pa.
B.S. in E.E. 1944, Iowa State College	Ind.	Lucas, Joseph John	Pa.
Losche, Herold Homer		Lucas, Raymond Albert	N.J.
A.B. 1935, Hanover College	D.C.	Luebs, Saul Myron	Va.
Lott, Margaret Agnew	Va.	Luck, William Bryant	Pa.
Lotts, Thomas Erskin	D.C.	A.B. 1948, University of Richmond	Me.
Loughmiller, Clair Martin, Sr.	Va.	Lucyk, Florence Regina	
Loughridge, Harry Joseph	Va.	Lucy, Robert Meredith	Me.
Louk, Elvin Glynn	Ohio	B.S. 1947, United States Naval Academy	
Lourie, Leonard Levy		Luddy, John Paul	
A.B. 1942, Miami University	Pa.	A.B. 1939, Boston College	Va.
Loux, Alvin Lincoln		LL.B. 1948, Boston University	Wash.
A.B. 1928, Ursinus College		Ludlow, Rowena Dyer	
A.M. 1946, Columbia University	Pa.	Lueck, Donald Christian	
Love, James William	D.C.	A.B. 1950, University of Notre Dame	
Love, James William		A.M. 1951, University of Chicago	Va.
B.A.E. 1950, Catholic University of America	Tenn.	Luedeman, Hazel McClure	
Love, Jolee		A.B. 1926, University of Kansas	
B.S. 1932, A.M. 1934, George Peabody College for Teachers	N.Y.	A.B. in Ed. 1950, The George Washington University	Pa.
Love, Richard Schwyler	N.Y.	Luers, Mildred May	
A.B. 1947, University of Rochester		Luhtanen, Andrew Aatos	
Lovegren, Robert Richard	N.Y.	Luke, Reid Stephen	Va.
A.B. 1950, Colgate University		Luketich, Marjorie C.	N.J.
A.M. 1951, University of New Zealand	Ala.	Lulich, Ljubo	
Loveless, Paul Caffee		A.B. 1951, University of California	
B.S. 1948, United States Naval Academy	Va.	Lulkoski, Winifred Adele	Pa.
Lovell, Alfred Henry, Jr.		A.B. 1945, New York State College for Teachers, Albany	
A.B. 1938, University of Michigan	D.C.	Lum, David Walker	Pa.
A.M. 1939, Tufts College	Va.	B.S. 1950, M.S. 1951, The George Washington University	Me.
Lovell, Guy Wimer	D.C.	Lumpee, Helen Virginia	
Lovell, Nancy Jane	Va.	Lund, Theodore J.	N.Y.
Lovenstein, Lawrence Jennings	D.C.	B.M.E. 1948, College of the City of New York	
Loverscheck, Charles Lester	Va.	Lundberg, Rolf Th.	
B.S. 1942, Iowa State College	Mass.	LL.M. 1949, University of Ohio	
LL.B. 1951, Georgetown University	N.Y.	Lundelius, Esther L. Feluse	R.I.
Low, Richard James		A.B. 1940, University of Southern California	Wash.
Low, Robert Allen	Va.	Lundgren, Eugene Albert	Me.
A.B. 1941, Stanford University	W.Va.	Lundgren, Henry Willard	Pa.
Lowe, Cameron Anderson	D.C.	Lundquist, George Arthur	Va.
Lowe, Eugene Walper	W.Va.	B.S. 1948, University of Maryland	Pa.
Lowe, Franklin Gerald	D.C.	Lundry, Lorell Elaine	
Lowe, J. William	Conn.	Luning, Alfred Onno	Pa.
Lowe, Robert Joseph		Lunn, Eugene Edward	
Lowell, Donata Ann	D.C.	A.B. 1949, Youngstown College	
A.B. 1946, University of Vermont	D.C.	Lunn, Ruth Martine	
Lowenthal, Emil		Ed.B. 1956, Minnesota State Teachers College, St. Cloud	Pa.
Lowenthal, Herman	Md.	A.M. 1941, Northwestern University	Pa.
A.B. 1951, The George Washington University	Wash.	Lund, Eugene Barton, Jr.	N.J.
Lowery, John Robert		Lunsford, John Crawford	Pa.
Lowman, David Daniel	Calif.	Luppena, Joseph Charles	Pa.
A.B. 1947, Stanford University	D.C.	B.S. in C.E. 1941, University of Kansas	Pa.
Lowman, Eleanor Suther		Lupton, Margaret Helen	Me.
A.B. 1940, Stanford University		Lusby, H. Louise	
Lowrey, Joe Jannan	D.C.	Luskin, Harold Frederic	
B.S. 1941, Mississippi College	Va.	Lustick, Sylvia	
A.M. 1947, George Peabody College for Teachers	Va.	Lustick, Eugene	N.J.
Lowther, Vernon Whitney	D.C.	Luther, Elmer Eugene	
Low, Victor	D.C.	A.B. in Govt. 1940, The George Washington University	
Luskasek, Jerry John	D.C.	Lutwak, Helen Deborah	Pa.
Lospence, Frank Paul	D.C.	A.B. 1948, A.M. in Ed. 1950, Hunter College	Pa.
Lutharsky, Naomi	D.C.	Lutz, Marie Terese	
Lubin, Bernard	Md.	Lutz, Robert Blair	
Lubin, Joseph Meyers		A.B. 1949, Dickinson College	
A.B. 1948, The George Washington University	Md.	Luxenberg, Kenneth	
Luboshetz, Sergio N. Ferris	D.C.		
B.S. 1948, University of London			
Lucas, Donald Edward			



# Students Registered

503

Lyddane, Mary Elizabeth B.S. 1931, Columbia University A.B. 1930, The George Washington University	D.C.	Mace, Lucyle H. Mackura, Joseph A.B. in Ed. 1949, The George Washington University	Va. Pa.
Lydon, Ann M. Lycouris, Evange G. Lyle, Robert Eugene A.B. 1950, The George Washington University	Pa. Greece Va.	Macerich, George MacEwen, Ellen Mae Macey, Irving Franklin B.S. in B.A. 1942, Boston University	Ohio Md. N.H.
Lynch, Charles Theodore Lynch, Daniel Jay Lynch, Gerald Ross Lynch, John William Lynch, Marion Paul A.B. 1939, The George Washington University	D.C. N.Y. D.C. Md. D.C.	MacFarlane, James Cunningham, Jr. MacGill, Alvin Robert MacGowan, Elizabeth Butler MacGregor, Mary Lois Machile, Willard A.B. 1938, Harvard University	Md. N.J. D.C. Ga. Fla.
Lynch, Susan M. A.B. 1948, Colby College Lynch, Virginia Claire Lynch, William Joseph BS. 1944, Newark College of Engineering MS. 1947, Massachusetts Institute of Technology	D.C. D.C. Conn. Va.	Machlin, Claude Tajen A.B. 1947, Hunter College Machlin, Leon G. B.S. 1946, College of the City of New York Mack, James Edward A.B. 1943, The George Washington University	D.C. N.Y. Fla.
Lynn, Gay, Jr. B.S. 1952, University of Maryland Lynn, William Louis, Jr. A.B. 1941, Lynchburg College A.M. 1941, Duke University Lyon, Robert Howarth A.B. 1950, State University of Iowa Lyon, Jane Elizabeth Lyon, John Hugh, Jr. B.S. 1939, Virginia Military Institute	Md. D.C. Md. Md. Md. Md. Va. D.C.	Mack, Thomas Collins Mack, Victor Anthony A.B. 1941, Brooklyn College MacKay, George Freeland A.B. 1950, Tufts College Mackel, Edward H. B.S. 1941, University of New Hampshire A.M. 1951, Northwestern University	N.Y. Md. Md. Mass.
Lyon, John Joseph A.B. 1948, Harvard University Lyon, John Joseph Lyon, David Edward Lyon, Susanah Bryan Lyle, J. Warren Lyle, John Albert	Mass. Md. D.C. Va. Md. Va.	Mackensen, Judith Agnes Mackey, Constance Jean A.B. 1949, Duke University Mackie, Robert Allan Mackintosh, Eloise Gates Mackintosh, Robert Hugh Mackles, Louis B.S. in Ch.E. 1948, M.S. 1949, University of New Hampshire Mackoz, Teresa L. Mackson, Murray A.B. 1948, Pennsylvania State College LL.B. 1950, Dickinson College	D.C. Pa. D.C. D.C. Md. N.H.
MacArthur, Bowman McCalla MacNeil, Ross Morrison A.B. 1943, University of Dubuque MS. in P.A. 1946, Ohio State University	Md. Iowa	Mackin, Maholm A.B. 1941, Yale University LL.B. 1948, Harvard University	Va.
MacCormack, Frances Irene MacCormack, Patricia Ardys MacDonald, Roger Milo MacDonald, Andrew Thomas Alexander MacDonald, Agnes A.B. 1948, Mount Mercy College MacDonald, Frank Joseph MacDonald, Katherine Marie MacDonald, Mary M. A.B. 1949, Catholic University of America	D.C. D.C. Va. Md. Md. Va. Md. Md. Md. Pa. N.Y.	MacLeod, Roger William MacNeil, James Roy MacNeil, Joseph Hector Macom, Edward Malcolm B.S. 1951, The George Washington University MacRae, Beverly Ann MacSperran, John Samuel A.B. 1947, Yale University MacV, Barbara Ann A.B. 1947, Syracuse University MacLaris, John De, Jr. Madden, Ivan Marie B.S. in S.S. 1941, College Misericordia Madden, James Dickson B.B.A. 1942, University of Georgia LL.B. 1947, University of Michigan	Mass. Tex. D.C. Va. Ohio Md. Md. Va. Pa. Ga.
MacDonald, Mary Patricia A.B. 1950, Granger College B.M. E. 1945, Rensselaer Polytechnic Institute MacDonald, Torrence Hugh A.B. 1949, Montana State University Mace, Almon T.oley B.S. 1934, M.S. 1936, Purdue University	Va. Va. D.C.	Madsen, Andrew Cadyan Madsen, Mary Morris Mada, Maxadine Mager, Robert Henry A.B. 1951, The George Washington University Mager, Edwin Eitel	Pa. Va. Iowa Japan Va. D.C.

Marri, Pasquale John	D.C.	Malloy, William James	N.D.
B.S. 1950, Georgetown University		A.B. 1952, The George Washington University	
Maggio, Paul Angelo	N.Y.	Malone, Donald Francis	K.I.
A.B. in Govt. 1950, The George Washington University		Malone, William Grady	Vo
Maguiros, Kay	Hawaii	B.S. 1941, Louisiana State University	D.C.
A.B. 1951, University of Hawaii		Maloney, Edward	D.C.
Magin, George Benedict, Jr.	Tenn.	Maloney, James Edward	Man.
B.S. 1946, University of Chattanooga		Maloney, William Everett	
Maileby, Dale Hammer	Idaho	B.S. 1950, The George Washington University	P.C.
B.S. 1948, A.B. 1949, Idaho State University		Malovic, John Michael	
Magner, Joseph Paul	D.C.	A.B. in Ed. 1950, Ball State Teachers College	Man.
Magnus, Harold	Md.	Malowski, Mary Marguerite	ML
Magnore, Mary Ewing	D.C.	Malzone, Francis Richard	W.V.
A.B. 1951, University of Michigan		Mamish, Julia	N.Y.
Magnore, Sue Darby	D.C.	Manaker, Leon	Pa.
Mahoney, John Gage	Mich.	Manbeck, Harry Frederick, Jr.	Va.
B.S. 1949, Michigan State College		B.S. in E.E. 1949, Lehigh University	D.C.
Mahardy, John Thomas	Va.	Mancenon, Louis Norman	
Maher, Stanton Bernard	N.Y.	Mancin, Dolores Marie	D.C.
A.B. 1950, Syracuse University		B.S. 1950, University of Maryland	
Mahon, Robert V.	N.Y.	Mancini, Armando	D.C.
A.B. 1949, LL.B. 1952, Columbia University		A.B. 1950, West Virginia University	N.Y.
Mahoney, Gerald David	Iowa	Mancuso, Rosalie Marie	
Maida, Saverio Michael	Md.	Manfold, Robert John	D.C.
B.S. 1947, Long Island University		A.B. 1951, The George Washington University	
Maida, Stewart Anthony	Md.	Manfredi, Daniel A.	P.C.
Maidriello, Joseph T.	Pa.	B.S. in M.E. 1951, Carnegie Institute of Technology	N.Y.
A.M. 1942, St. Joseph's College		Mankous, Irene Marta	ML
LL.B. 1947, Harvard University		Manley, Bernard Lawrence	
Maisch, Ormand Russell	Tex.	Mann, Charles Kenneth	N.C.
Maisel, George Seymour	Pa.	B.S. in Eng. 1950, The George Washington University	
A.B. 1949, Bowdoin University		Mann, Clyde Robinson	Pa.
Mateske, Daniel Harold	Mich.	B.S. 1947, East Carolina Teachers College	D.C.
Major, Billy Edward	D.C.	Mann, David Laurence	
Makarias, Anna	D.C.	Mann, David Philip	D.C.
Malanowski, Anthony Joseph	Pa.	B.B.A. 1948, University of Miami	
B.S. 1951, California Institute of Technology		Mann, Donegan	Vo
Malask, Bernice	D.C.	A.B. 1947, LL.B. 1950, The George Washington University	
Malboeuf, Alfred Charles	Calif.	Mann, Eva Myrtle	N.C.
A.B. 1943, University of California		B.E. 1929, Asheville Normal and Teachers College	
Malchman, Jenny	D.C.	Mann, Leah Frances	ML
A.B. 1947, Smith College		Manning, Jane A.	D.C.
Malec, Edward Lee	Md.	Manning, John Raymond	
B.S. in Ed. 1946, University of Illinois		Manning, Louis M.	Pa.
Malenbaum, Josephine O.	D.C.	Manning, Samuel Phillips	
A.B. 1943, Boston University		A.B. 1949, University of North Carolina	
Maleszewski, Charles	D.C.	Manoff, Chester	ML
Maley, Donald Jennings	Va.	Manogue, Joseph Francis	D.C.
Malik, John August	D.C.	Manolatos, Alvie Hope	
Malinichak, Nicholas	Pa.	Manolatos, Spero George	Pa.
A.B. 1949, University of Pittsburgh		Manos, Nicholas Emmanuel	
Maliniak, Lennart	Md.	A.B. 1958, A.M. 1952, University of California	ML
Malison, Robert	D.C.	Manster, Donald Ellsworth, Jr.	Vo
Mallison, Irving Herschel	Va.	Mansteld, Brook Stockman	
Malkin, Jack	D.C.	B.S. 1919, United States Naval Academy	
Malkin, Warren Preston	D.C.		
Mallardi, Thomas Joseph	D.C.		
Mallgrave, Nina Regina	Va.		
Mallgrave, William John	Pa.		
Malligo, John Edward	Pa.		
A.B. 1950, Catholic University of America			
Mallina, Dimitri Peter	D.C.		
Mallins, George Peter	D.C.		
Mallon, Dwight Stone	Ohio		
A.B. 1928, Yale University			
Malloy, Raymond James	D.C.		

# Students Registered

505

Manuel, James Ernest A.B. 1948, Shepherd College	W.Va.	Marlowe, Orville John A.B. 1950, Cornell University	Iowa
Manuel, Richard Duffley	D.C.	M.S. 1951, University of Wisconsin	
Manz, Alice Lann	D.C.	Marmor, Emil	D.C.
Manzano, Elmond Richard	Va.	Marmor, Alfred Charles	N.Y.
Manzano, Theodore	Tex.	Marmur, Julius	Canada
Mapes, Eleanor Hermine A.B. 1947, University of Texas	Fla.	Ph.D. 1951, Iowa State College	
Mapin, Alice Joan	Va.	Marques, Mary Gilda	Mass.
Matevali, Eugenia Rose	Pa.	B.S. in Ed. 1941, Massachusetts State Teachers College, Salem	
Mateo, Ramos Vicente	Puerto Rico	M.B.A. 1942, Boston University	
Matella, Lawrence Charles B.S. 1949, University of Puerto Rico	Pa.	Marquess, Nena D.	D.C.
March, Christian Laurin, Jr. A.B. 1950, The George Washington University	Fla.	Marquis, John William	N.J.
March, Joseph Wolf, Jr.	Pa.	A.B. 1950, Carleton College	
Marchese, Joseph Michael	N.J.	Marra, Alphonse Joseph	N.J.
Marchese, Rosemarie B.S. in Ed. 1948, Buffalo State Teachers College	N.Y.	Marrero, Robert	N.Y.
March, Louis Basil	D.C.	Marx, Jerome Paul	N.J.
March, Andrew	N.J.	Marsh, Benjamin Franklin	Ohio
March, Frank Walter	N.J.	A.B. 1950, Ohio Wesleyan University	
March, Charles Andrew	Conn.	Marsh, Edna Lambert	Md.
March, Galeo John	Pa.	Marsh, Harold Cameron, Jr.	Tex.
March, Manuel Angele A.B. in Ed. 1950, The George Washington University	N.Y.	A.B. in Ed. 1941, The George Washington University	
March, Joseph Francis	D.C.	Marsh, Mary Henry	N.J.
March, Helen Francis	Pa.	Marsh, Mary Louise	Va.
March, Ruth	N.Y.	Marsh, Richard Wade	Va.
March, Jeanne	D.C.	A.B. 1946, American University	
March, Ernest	Pa.	A.M. 1949, The George Washington University	
March, The George Washington University	D.C.	Marsh, Samuel Dennis	Md.
March, Chas. Gilbert	Pa.	A.B. 1948, Yale University	
March, Matthew David	D.C.	License Es Sciences Politiques 1950, University of Geneva	
March, Rene	Md.	Marsh, Winston William	Md.
March, Elaine Bresler A.B. 1951, University of Maryland	Va.	A.B. 1941, Wittenberg College	
March, Anselma Butler	N.Y.	Marshall, Andree	Va.
March, Consuelo Viola	Puerto Rico	Marshall, Charles Clifford	Ind.
March, James Vincent	D.C.	B.S. 1949, Purdue University	
March, John Vincent	D.C.	Marshall, Charles Lance, Jr.	W.Va.
March, Paul James	Va.	B.S. in E.E. 1949, Purdue University	
March, John Kenneth, Jr.	D.C.	Marshall, Edwin Hayward	N.Y.
March, Clare Cecilia A.B. 1950, Trinity College	Va.	M.E. 1941, Rensselaer Polytechnic Institute	
March, James Edward, Jr. A.B. 1946, LL.B. 1949, Georgetown University	Md.	Marshall, Frank Stadden, Jr.	Va.
March, Mary Rota A.B. 1946, Trinity College	D.C.	Marshall, John C.	Va.
March, Jane Bradley	D.C.	Marshall, Joyce	N.Y.
March, Marjorie Alma	Va.	Marshall, Linton Satterthwaite, Jr.	Va.
March, Marie H.	D.C.	Marshall, Madeline Swindell	Va.
March, George Howe	Va.	Marshall, Marjorie Tooley	Va.
March, Helen	Md.	Marshall, Mildred Maxine	Va.
March, Morris	D.C.	Marshall, Patricia Mills	Fla.
March, Walter	D.C.	Marshall, Ruth	D.C.
March, Carl Christopher B.S. 1946, St. Vincent's College	Va.	Marshall, Theodore Franklin	D.C.
March, Vincent	Pa.	A.B. 1951, Whitier College	Calif.
March, Dorothy Helen	Pa.	Marshack, James Russell	Va.
March, Charles Austin, Jr.	D.C.	Marshall, Mary Rogers	D.C.
March, William Fortner B.S. 1941, The George Washington University	Mo.	Martene, Eugene Robert	Va.
March, William Haworth	Calif.	B.S. in M.E. 1926, Case Institute of Technology	Ohio
	D.C.	Martin, Albert Louis	
	Md.	Martin, Charles Raymond, Jr.	N.H.
		Martin, Daniel Walter	Fla.
		Martin, Donald Drew	Md.
		Martin, Donald Robert	D.C.
		Martin, Dore	Colo.
		Martin, Dorothy May	Md.
		A.B. 1946, Bates College	N.H.
		Martin, Edward Francis	
		A.B. 1949, University of Connecticut	Conn.
		Martin, Fay Emmett	
		Martin, Francis Tolson	Md.
		Martin, Frank Eugene, Jr.	Md.
			D.C.



Martin, Harry Robert	D.C.	Massard, Rene J.
A.B. 1946, University of Puerto Rico		Massie, Samson
Martin, Hugh Joseph	D.C.	Massengel, Hilda Grey
A.B. 1946, St. Mary's University		Massie, Cary Winston
Martin, Jerome Daniel	Iowa	A.B. 1950, The George Washington
Martin, John Oliver	Va.	University
A.B. 1951, Washington and Lee		Massie, Maxine
University		Mast, Philip Wonn
Martin, John Peter	Md.	Mast, Robert James
Martin, Julius Cospening III	D.C.	Mastahr, William John
Martin, Laura Evelyn	D.C.	Masters, Margaret Ann
Martin, Lawrence Stephen	Va.	A.B. 1951, The George Washington
Martin, Leiland Myers	Md.	University
B.S. 1954, University of Arkansas		Masters, Robert Eugene
Martin, Mary Lou	Va.	B.S. in B.A. 1947, LL.B. 1949,
Martin, Mary M. Lean	Md.	Indiana University
Martin, Mildred Jean	Md.	Masters, Thomas Joseph
Martin, Pansey Mae	Fla.	Masterson, Francis Wilbur
Martin, Paul Kyler	D.C.	A.B. 1950, The George Washington
Martin, Philip Joseph	N.Y.	University
Martin, Priscilla Claggett	D.C.	Mastrangelo, Frank Robert
Martin, Robert Carl	Calif.	Mastrantonis, Constantine Leonidas
A.B. 1950, University of California		Mataea, Florence T.
Martin, Robert William	D.C.	Matani, Fred Anthony
A.B. 1949, Southwest Missouri State		Mathers, Alex Pickens
College		B.S. 1911, University of Florida
Martin, Roger Arthur	Md.	M.S. 1946, Tulane University
Martin, Shelia	D.C.	Mathers, Lala Wanda
Martin, Thomas Archie	Ill.	Mather, Ruth Harrison
A.B. 1949, The George Washington		A.B. 1951, The George Washington
University		University
Martin, Warr Nicholas	N.C.	Mathews, Edward Ray
LL.B. 1950, The George Washington		Mathews, Jerold Chase
University		Mathews, Mitford McLeod, Jr.
Martin, William J.	D.C.	A.B. 1944, University of Illinois
LL.B. 1939, University of Baltimore		Mathews, Robert Stanley
Martinek, Julius A.	Wash.	Mathias, Richard Bingham
B.S. 1949, Michigan State College		Mathis, Irvine
Martorano, Joseph James	N.Y.	Mathis, Steve Lloyd, Jr.
A.B. 1940, Brooklyn College		Mathis, Troy Davis
M.S. 1944, New York University		B.S. 1949, University of North
Marrowitz, Edward Thomas	Ohio	Carolina
Marsala, Walter N.	Mass.	Mathur, Krishna Dayal
Marvel, Jerry Wendell	Ind.	Mathus, Lucile Elizabeth
Marvey, Adolph Louis	Va.	Mazney, Robert Tavor
Marvyl, Frederick Linwood, Jr.	D.C.	Matson, Evelyn Charlotte
Mascherer, Ruth Dolores	Md.	Matson, Marcel
Maschella, Joseph Robert	N.J.	B.S. in B.A. 1949, University of
Mason, Virginia Joan	D.C.	Missouri
Mast, Morris	N.Y.	Mattada, Noriko Perry
Masello, Joseph Alvin	Va.	Matten, Anthony Francis
B.S. in Eng. 1950, The George		Matthes, Chester Anthony
Washington University		Mathews, James Raymond
Maskeless, Eva Chris H.	Okla.	Mathews, James Richard
Maske, Wernona	Va.	A.B. 1949, University of Richmond
Maslen, Hillbrook	N.H.	Mathews, Patrick Cabell
Mason, Abraham Morris	D.C.	B.S. 1944, University of Virginia
Mason, Ardis Anne	Utah	Mathews, Rexford Jackson
Mason, Chaytor Diez	D.C.	Mathews, Theodore Delmar, Sr.
A.B. 1949, The George Washington		Mathews, Theophilus College
University		A.B. 1949, Shepherd College
Mason, Frances	D.C.	Mattmore, Walter Bernard
A.B. 1947, University of Kansas City		LL.B. 1947, A.B. 1951
Mason, Jinalu	D.C.	Washington University
Mason, Jane Briggs	Va.	Mattina, Robert Alphonsa
Mason, Lyman Gates	Md.	Mattings, Mary Bernadette
Mason, Mary Ruth	D.C.	Mattison, Arthur Richard
Mason, Robert Marion	Ohio	A.B. 1950, The George Washington
Ed.B. 1950, A.M. 1951, University		University
of Toledo		Mattman, Frank, Jr.
Mason, Russell Brisbane	Md.	Mattasewicz, Tonia Ivanovna
A.B. 1951, The George Washington		Mayer, Floyd Andrew
University		B.S. 1947, Hobart College
		M.S. 1949, Carnegie Institute of
		Technology

# Students Registered

507

Maul, Arthur George B.S. in Ed. 1918, New York State Teachers College, Buffalo	D.C.	McAllister, James Addams B.S. 1910, United States Naval Academy	Calif.
Maupin, Grace Elaine Maupin, James Carey A.B. 1911, The George Washington University	D.C. Calif.	M.S. 1940, University of California at Los Angeles	
Maurer, George Joseph Mauro, Louis Quarto	Pa.	McAllister, Jean Elizabeth	Md.
Mauzy, Margaret Humiston Ph.B. 1922, University of Chicago	N.Y.	McAllister, Robert John	Mont.
Mauzy, 1919, Columbia University	Md.	A.B. 1941, Lorain College	
Mavila, Priscilla Bunker Mavila, Nancy Pate		A.M. 1949, Catholic University of America	
A.B. 1949, University of Alabama	Md.	McAnear, Jerald L.	Ark.
Mawhood, Photos Adam	Pa.	McAnelly, Shelton Bigler B.S. 1942, Louisiana State University	Va.
Maxwell, Samuel Allen	Md.	McArdle, Thomas Joseph	D.C.
Maxwell, Marjoe Dean	Va.	McAuliff, Rita Catherine	D.C.
Maxwell, Raymond Westbury	Va.	A.B. 1947, Trinity College	
A.B. 1951, University of Maryland		McAuliffe, John Hilary	D.C.
Maxwell, William A.	Va.	McBee, Frank Howard	D.C.
B.S. 1950, University of Pennsylvania	N.J.	A.B. 1925, The George Washington University	
May, Christopher Michael		McBurnett, Roe David, Jr. B.S. in E.E. 1944, Georgia Polytechnic Institute	Tenn.
May, Jacqueline Lee	Md.	McCaffrey, George Matthew	D.C.
May, Joan, Catherine	Va.	McCall, Barbara Ann	Ky.
Mayberry, Robert Richard	D.C.	McCall, Carl Price	D.C.
Mayberry, Grant Elmer	D.C.	McCall, Chester Hayden, Jr. A.B. 1950, The George Washington University	Md.
Mayberry, Paul Raymond	Md.	McCall, Nancy Carolyn	Ky.
Mayberry, Herman	Maine	McCalley, John Wallace A.B. 1945, A.M. 1947, The George Washington University	Calif.
Mayer, Martha J.	D.C.	McCallister, James Ellis	Ky.
Mayer, Mitchell Lewis	N.Y.	McCallum, George Patrick A.B. 1944, A.M. 1948, Washington State College	Wash.
B.S. 1950, Pennsylvania Military College		McCallum, James L. P. B.S. 1917, United States Naval Academy	Va.
Mayer, Robert Charles	D.C.	McCance, Bobbie Evelyn	D.C.
B.S. 1941, United States Merchant Marine Academy		McCann, Brendan James	Va.
Masone, Georgetown University		McCarten, William Gray B.S. 1948, University of New Hampshire	Md.
Maym, Priscilla A.B. 1949, The George Washington University	Puerto Rico	M.S. 1949, The George Washington University	
Maynard, James Paul	Va.	McCarthy, Daniel Joseph, Jr.	D.C.
Mayne, John Cleland	Mich.	McCarthy, Helen Mary A.B. 1942, Regis College	Mass.
A.B. 1948, Albion College		McCarthy, Isabella Ann	D.C.
Mayo, David Wallace	D.C.	McCarthy, John Ernest	Md.
Mayo, Harold Emmett	Va.	McCarthy, John Wentworth A.B. 1951, University of Virginia	Ind.
A.B. 1941, Beaver College	Md.	McCarthy, Lawrence Daniel	Va.
Mayo, Rose Mary	D.C.	McCarthy, Mary Agnes	Ind.
Mayo, William Elmer	Ga.	McCarthy, Mary Ann	D.C.
Mayo, Pablo Alfredo	Colombia	McCarthy, Mary Jude	Md.
Mayo, Joseph Frank	N.Y.	McCarthy, Mary Rita	D.C.
A.B. 1926, Syracuse University	D.C.	McCartney, Junius Acres	D.C.
Mayo-Wells, Wilfrid James		McCarty, William Homer	Iowa
Mayo-Wells, Wilfrid James	D.C.	McCauley, Beverly Booth A.B. 1949, Mills College	D.C.
Mayo, David Carter	D.C.	McCausland, Stanley Lee B.S. 1948, Ursinus College	Pa.
Mayo, Benjamin	D.C.	McCavitt, Martin E. B.S. 1934, Pennsylvania State Teachers College, Shippensburg	Pa.
B.S. 1950, University of New Hampshire	Md.	Ed.M. 1936, Pennsylvania State College	
Mayo, John Robert	Pa.	McCaw, Eugenia A.B. 1941, McGill University	N.Y.
A.B. 1951, The George Washington University	Md.	McClanahan, Carl B.S. 1948, Georgetown University	S.C.
Mayo, George, Jr.	D.C.		
Mayo, Louis Francis	N.Y.		
McAfee, Ruth Edith			
McAfee, Thomas Bernard			
McAlister, Walter Roy			
B.S.F. 1950, New York State College of Forestry			
McAllister, Edward Joseph			

McCleary, Carroll Jesse	Md.	McCreary, Robert Lee	
McClellan, Ethel Shoemaker	Pa.	McCreight, Charles Edward	
McClellan, William Alfred	Md.	B.S. 1948, M.S. 1950, The George Washington University	N.H.
McClelland, Robert Raymond	Fla.	McCrillis, Avis Ruth	Pa.
McClelland, Thelma Clanton	Md.	B.Mus. 1948, University of Michigan	Pa.
McClelland, William Thomas	Pa.	M.S. 1951, Simmons College	Pa.
McClenathan, Nelle Louise	Miss.	McCrone, Thomas Joseph	
McCleskey, Curtis Victor	Ill.	McCubbin, James Melvin	
McCloskey, Mildred K.	Nev.	McCue, Francis J.	
McCloskey, Stephen William	Pa.	A.B. 1930, Fordham University	
McCloskey, Sylvester John		A.M. 1950, New York University	
A.B. 1949, The George Washington University		B.S. in Eng. 1950, The George Washington University	
McClung, Kathryn Louise	W.Va.	McCulloch, John Kinsey	
A.B. 1949, West Virginia University		B.S. 1948, The George Washington University	
McClure, Birtel Eugene	D.C.	McCulloch, Sally	
McClure, E. Josephine	D.C.	McCullough, Richard Cornwell	
McClure, John Pendleton	Md.	McCully, Cyrus Harold	
McClure, Robert Lee	Tex.	A.B. 1934, A.M. 1935, Colorado State College of Education	
McClure, Roger Gene	Okl.	McCumber, Florence E.	
McClure, William Pendleton	D.C.	McCune, Frederick Kenneth	
B.S. in Ed. 1949, University of Pennsylvania		B.S. 1951, Grove City College	
LL.B. 1951, The George Washington University		McCurry, William Smith, Jr.	
McCoach, Nancy Ann	Md.	B.S. 1948, University of South Carolina	
McCollum, Frank Leslie	Md.	McCutcheon, Robert Daniel	
B.S. 1946, The George Washington University		McDaniel, Ernest Glenn	
McCollum, Oscar D. Jr.	D.C.	A.B. 1936, Fairmont State College	
A.B. 1941, University of Kansas City		McDaniel, James David	
McColskey, John Carroll	Va.	McDaniel, John Bennett	
McConachie, Gale Root	Kans.	B.E.E. 1946, University of Louisville	
McConahoy, Treva Arlene	Ohio	McDaniel, John Milton	
B.S. 1949, Ohio University		McDaniels, James Ellis	
McConnell, George Jewell	D.C.	McDavitt, Margaret Louise	
B.S. 1951, Wilson Teachers College	Ill.	McDermott, Carol Jean	
McConnell, Henry James		McDermott, William Thomas	
B.S. 1951, University of Maryland		B.S. 1947, University of New Hampshire	
McCool, Thomas Eugene	D.C.	Ed.M. 1936, Boston University	
McCord, Franklin Otto	Ala.	McDonald, Arthur Smith	
A.B. in Govt. 1950, The George Washington University	Iowa	A.B. 1940, University of Kansas	
McCormack, George Robertson		A.M. 1950, Cornell University	
McCormick, Marvin Vincent	Md.	McDonald, Donald Deon	
A.B. 1941, Akron University	Ohio	A.B. in Govt. 1950, The George Washington University	
M.B.A. 1947, Harvard University		McDonald, Ethel Raynor	
McCormick, Paul Vincent	N.Y.	A.B. 1939, University of Hawaii	
McCormick, William John	Va.	McDonald, James Robert	
McCorkley, Robert Edgar	D.C.	McDonald, John W.	
B.S. 1950, The George Washington University		B.S. 1916, University of Kentucky	
McConch, Jean Gordon	Pa.	McDonald, Marvin Bruce	
A.B. 1949, Wellesley College		McDonald, Steve George	
McCowan, Joseph Aaron	Utah	McDonnell, Donald Anthony	
B.S. 1948, Utah State Agricultural College		McDonough, John Joseph	
McCoy, Albert Diod	Va.	McDonough, Paul Joseph	
A.B. 1913, Princeton University		A.B. 1949, Hobart College	
A.B. 1946, Stanford University		B.S. in F.S. 1950, Georgetown University	
McCoy, Leonard Hervey	W.Va.	McDonough, Raymond John	
McCracken, Byrd Wheeler	Pa.	LL.B. 1951, The George Washington University	
McCracken, Dora Bradshaw	Va.	McDonough, Rita Sarah	
McCracken, Kelly Thomas, Jr.	Va.	McDonough, Marie Rieter	
McCracken, Leslie Guy, Jr.	Pa.	McDonnell, Janet Beverly	
B.S. in E.E. 1945, Massachusetts Institute of Technology		A.B. 1950, The George Washington University	
M.S. 1947, Lehigh University		McDuffee, Lois June	
McCreary, John Rafferty	Md.	A.B. 1950, The George Washington University	
A.B. 1951, Catholic University of America		McDugald, Jesse	



# Students Registered

509

McElaney, Philip Jerome B.S. in C.E. 1948, University of Washington	Wash.	McHale, Robert Berger A.B. 1951, The George Washington University	Va.
McElroe, Timothy Dana	Md.	McHenry, Helen Margaret	D.C.
McEwen, Marilou	D.C.	McHenry, Robert Calvin	Md.
McFadden, Laura Marie	D.C.	McHugh, John Joseph B.S. 1951, Wilson Teachers College	Va.
McFadden, Merrill Ray	D.C.	McIlhatten, David White	Va.
McFarland, Henry Thomas	Md.	McIlhatten, Kathleen Hoots A.B. 1942, University of North Carolina	Va.
McFarland, John Robert	Ariz.	McIlhenny, Theodore Scott	Utah
McFarland, Thomas James	Pa.	McInerney, Phil Michael	Md.
McGandy, Roy Lee	Tenn.	McInteer, Rachel Catherine B.S. 1952, Columbia University	D.C.
McGee, Edward Lewis B.S. in Eng. 1951, The George Washington University	Md.	McIntire, Ralph Wellington, Jr. B.S. 1949, University of Pittsburgh	Md.
McGinn, Malcolm Hobart, Jr.	Va.	McIntosh, Arthur Taimadge A.B. 1948, University of North Carolina	N.C.
McGinn, Marion Louise	D.C.	McIntyre, Carl Franklin	N.C.
McGinn, Virginia Estelle	Va.	McIntyre, Charles J. B.S. 1916, University of Pennsylvania	Md.
McGinn, Velma Louise	Ky.	McIntyre, Eileen L.	D.C.
McGinn, Charles Edward Ed B. 1954, Northern Illinois State Teachers College	Md.	McIntyre, Francis Joseph	Md.
McGee, Kathleen Lillian	Va.	McIntyre, Fred Louis A.B. 1948, LL.B. 1950, The George Washington University	Va.
McGee, Robert Henry	Pa.	McIntyre, James Byron	W.Va.
McGeehan, Hugh Vincent	Va.	McIntyre, Joseph Charles	Md.
McGinn, William McPherson III	Va.	McIntyre, Ruth M.	Md.
McGinn, Richard Peter	N.Y.	McIvor, Lillie Mae B.S. 1946, Radford College	Va.
McGinn, Anne Cecile	D.C.	McIvor, Thomas Aloysius A.B. 1947, LL.B. 1949, University of Pennsylvania	Pa.
McGinn, Dwight Ridgway	Ohio	McKay, Cameron Lawrence	Minn.
McGinn, James Thomas	Md.	McKay, Ellen F. A.B. 1947, New York University	N.Y.
McGinn, Catherine Ann	Pa.	McKay, Fred James	N.J.
McGinn, Thomas Francis	Va.	McKay, Rachel Ruth B.S. in Ed. 1943, Pennsylvania State College	Pa.
McGinn, Janet Blair Montgomery B.S. 1951, Northwestern University	Ill.	McKechnie, Marion	D.C.
McGinn, Melvin Joseph A.B. 1946, Coe College	Ill.	McKee, James Oakes A.B. 1942, Knox College	Ill.
McGinn, Thomas Gerard A.B. 1950, St. Francis College, N.Y.	D.C.	McKee, Julia Anne	Kans.
McGinn, Dick James	Conn.	McKee, Nancy Catherine	Va.
McGinn, John Thomas	Pa.	McKellgott, Carol	Ill.
McGinn, Robert Leahy	N.Y.	McKenna, John Reilly	Md.
McGinn, Sally Vincent	Mass.	McKenzie, Bonnie Woodbury	Md.
McGinn, Frances Ross	Conn.	McKenzie, Robert August	D.C.
McGinn, Helen Jane	Md.	McKeon, Alfred Jerome A.B. in Govt. 1949, The George Washington University	Va.
McGinn, Margaret Anne	Va.	McKeon, Arthur Thomas M.F. 1948, Stevens Institute of Technology	N.Y.
McGinn, Marie Ellen	Va.	McKeon, John Patrick	Conn.
McGinn, John Gregor, Jr. A.B. 1949, Stanford University	D.C.	McKeon, Matthew Bernard A.B. in Govt. 1951, The George Washington University	Va.
McGinn, Rob Roy A.B. 1929, United States Naval Academy	Ariz.	McKeown, Thomas Patrick A.B. in Govt. 1950, The George Washington University	Mass.
McGinn, Rob Roy	N.Y.	McKinnell, Bettina De Lashmott	Md.
McGinn, Wallace H.	D.C.	McKinney, Clyde Livingston	W.Va.
McGinn, Charles Jackson, Jr.	D.C.	McKinney, Garland Young, Jr.	Okla.
McGinn, Jack Dean	Va.	McKinney, Martha Haynes A.B. 1950, Furman University	S.C.
McGinn, James Arthur	Pa.		
McGinn, Kenneth James	D.C.		
McGinn, Rex and Arthur	Va.		
McGinn, Janet Emerson	N.Y.		
McGinn, Vincent William	N.Y.		
McGinn, The George Washington	Mass.		
McGinn, Donald Paul	Pa.		
McGinn, James Francis	N.Y.		
McGinn, College of the City of			
McGinn, Georgetown University			

McKinney, Nan Honora Katherine	Va.	McManus, Louise Kessler	D.C.
McKinney, William Butler	Md.	McMee, John Wallace	Md.
C.E. 1951, University of Maryland		A.B. 1950, The George Washington	Va.
McKinney, William Ralph	Ky.	University	N.Y.
McKinnie, William T.	N.D.	McMillan, William Walter	Va.
B.S. 1934, North Dakota Agricultural		McMullan, Edward Brooke	Va.
College		McMullen, Alexander Ross	Me.
A.M. 1940, The George Washington		McMurray, Delzell Barthell	Cal.
University		McNally, Eileen Bridget	
McKinsey, Robert James	Va.	McNally, James Edward	
A.B. 1942, J.D. 1947, University of		McNally, John Joseph	Va.
Chicago		B.S. 1949, LL.B. 1951, University of	D.C.
McKnight, Michael J.	D.C.	Denver	Me.
A.B. 1950, The George Washington		McNally, Patronienne Isabel	Pa.
University		McNamee, Gilbert Wilson	
McLain, Edward Phillip	D.C.	McNamey, William Edward	D.C.
McLain, Robert William	Va.	McNeal, Robert Poole	
A.B., B.S. in Ed. 1950, Defiance		B.B.A. 1951, University of Miami	Tex.
College		McNeely, Mary McPherson	D.C.
McLamore, Sara Frances	Fla.	A.B. 1948, Fairmont Teachers College	Cal.
A.B. 1949, Florida State University		McNeil, Margaret Ann	
McLane, Eleanor Cecelia	Va.	McNeill, Elizabeth Louise	
McLane, Henry Earl, Jr.	D.C.	McNeill, John S.	D.C.
McLaren, Lyle Chester, Jr.		A.B. 1937, University of Southern	Cal.
B.S. 1950, Ohio State University		California	
McLaren, Margaret Campbell	D.C.	McNeill, Thomas Cochrane	
A.B. 1950, The George Washington		McNelia, James Kelly	Me.
University		McNew, Ernest Kelly	D.C.
McLaren, Robert John	Mo.	McNulty, Eileen Marie	
McLarney, Thomas Aloysius	D.C.	McNulty, Paul Edmund	
McLarchlin, C. Mark, Jr.	N.Y.	McNulty, Philip Lambert	
McLarchlin, Chilton W.	Kans.	McOmber, Dale Robert	
B.S. in C.E. 1952, University of Kansas		B.S. 1947, A.M. 1949, Bowling Green	N.Y.
McLaughlin, Edward Bruce	D.C.	State University	
B.S.S. 1941, Georgetown University		McOmber, Joan Belle	Me.
McLaughlin, Ian Wayland	N.Y.	McPeak, Charles John	
McLaughlin, Manly Lee	Va.	A.B. 1950, St. John's University	
McLaughlin, Robert Hughes	Pa.	McPeak, Franklin Clifford	
McLaughlin, Veronica	Pa.	A.B. 1949, A.M. 1949, New Jersey	Me.
A.B. 1941, Clarke College		State Teachers College, Montclair	
McLaurin, Turner Sheppard	Va.	McPherson, Cora L.	
B.S. 1945, Mississippi College		McPherson, Trent Ocho, Jr.	
McLean, Charles Graham	N.C.	McPherson, Harry Sampson, Jr.	
A.B. 1948, The George Washington		A.B. in Ed. 1947, The George	
University		Washington University	
McLean, Thomas Hugh	Ga.	McQuarrie, Dennis Everett	
McLean, John Shelton	Ark.	McQuarrie, Joseph Edward	
McLennan, William Stuart	D.C.	McQuinn, William Thomas	
B.S. 1947, University of Oregon		McQuinn, William Henry	
McLeod, Barbara Ann	Va.	A.B. 1947, Emory and Henry College	
McLeod, Florence Clarissa		McRae, John Edwin	
A.B. 1948, University of Maryland		B.Ch.E. 1948, University of Detroit	
B.S. 1947, Simmons College		McSaul, Clovis Fred	
McLeod, Jean Frances	Md.	A.B. in Govt. 1949, A.M. in Govt. 1950,	
McLeod, Richard Norman	Md.	The George Washington University	
McLeod, William Roderick	Va.	McTeer, Hubert Dana	
B.S. in F.S. 1941, Georgetown		McVann, Paul Edward	
University		A.B. 1949, Providence College	
McLennan, Franklin Dean	Va.	McVey, Ellen Teresa	
McLendon, John Robert, Jr.	D.C.	McVey, Paul Montague	
McLendon, Dorothy Jones	Md.	McWade, Robert M.	
McLennan, James Michael	D.C.	B.S. 1952, Miami University	
A.B. 1948, The George Washington		McWhorter, Harry Stanley	
University		McWhorter, Roy Gene	
McMahon, Helen Mae	Ohio	Mead, Charles Dale	
McMahon, John Bettram, Jr.	D.C.	Meador, Norward Archibald	
B.S. 1951, Wilson Teachers College		Meador, Norward Archibald	
McMahon, John Patrick		B.S. in C.E. 1944, Virginia Military	
McMahon, Thomas Anthony	Id.	Institute	
A.B. in Govt. 1951, The George		Meadows, Betty Ruth Beeches	
Washington University		Meadows, Letha M.	
McMann, James Aloysius	Maine	Meadows, Martha Jean	
A.B. 1941, Georgetown University		Meadows, Miles Whitman	



# Students Registered

511

Meadows, Waldene Hastings B.S. 1949, Georgetown University	Kans. D.C.	Meredith, Ellis Edson A.B. 1947, University of Chicago A.B. 1951, The George Washington University	D.C.
Mears, Robert Harvey Mears, John Kenneth, Jr. Mearse, Banks Eliot B.S. 1949, University of North Carolina	Mass. D.C. N.C.	Meredith, Philip John Merello, Andrew Merendino, John Jerome Merino, Harold Francis LL.B. 1951, The George Washington University	Md Italy N.Y. D.C.
Meier, Cecil Meisner, Charles Eugene B.S. 1950, University of Virginia	Va. Va.	Mericle, Paul Edmund A.B. 1951, Harvard College	Md
Meisen, William Lloyd B.S. 1951, Alabama Polytechnic Institute	Va.	Merrifield, William Royce B.S. 1948, College of William and Mary	Va.
Meister, John Harbeck, Jr. A.B. 1944, Drew University	N.J.	Merkel, Jane Desch Merrin, James Forbes	Ohio Va
Melara, William Lawrence A.B. 1949, Coucher College	D.C. Md.	Merriman, Audrey Nadia Merriman, Georgiana Kay Messum, Malcolm Landers Ph.D. 1950, Yale University	Md. D.C. D.C.
Mercer, Samuel B.S. 1942, University of Toledo	Ohio	Merrick, Patricia Ann Merrill, Audrey Raymond B.S. in C.E. 1946, Clarkson College of Technology	D.C. N.Y.
Mercer, Josephine Marie B.M.E. 1942, M.S. 1947, Ohio State University	Ind. Mich.	Merriman, John Charles Merritt, Lenore Washen Merritt, Arthur Donald A.B. 1945, The George Washington University	Aia. Va. N.C.
Mess, Kenneth Jordan Messing, Barbara Jean B.S. 1945, United States Naval Academy	Md. Va. Fla.	Merritt, Adria Randi Messch, Robert Joseph Messersault, Anne Chienoweth Mertens, Eugene Mervin, Stanley Howard B.S. 1947, LL.B. 1950, College of William and Mary	Va. D.C. D.C. D.C. N.Y.
Messner, Ahmed A.B. 1946, A.M. 1937, University of Paris	N.Y.	Merwin, John Chester A.B. 1950, University of Maryland	D.C.
Mey, John Tracy A.B. 1949, College of the Holy Cross	Md.	Messersoll, Janet Thomas Messner, Harold Hugh Messner, Alva Donald B.S. in F.E. 1947, Kansas State College	N.J. D.C. Md.
Meyer, John Richard Meyer, Robert Wiley Meyer, Nancy Evelyn Meyer, William Evelyn Meyer, Lee Frances Meyer, Robert Chester, Jr. A.B. 1949, University of Wisconsin	Md. D.C. Va. Va. D.C. Md. D.C.	Messner, Constance Ann Messersmith, James Carl A.B. 1944, University of Missouri A.M. in E.L. 1951, The George Washington University	Ark. Mo.
Meyer, Charles Robert Meyer, Gene Anthony Meyer, George Lee A.B. 1941, Gettysburg College	D.C. Ind. Pa.	Messick, Vernon Delaney Messick, William Lee Messier, Jean Elaine Meralitz, Stanley A.B. 1947, College of the City of New York	D.C. N.Y. N.Y. N.Y.
Meyer, Barbara A. B.S. 1947, University of Minnesota	D.C.	Messinger, William Henry, Jr. Messinger, William Joseph A.B. 1947, University of Pittsburgh	Va Md Va
Meyer, David Ralph Meyer, Philip Glenn Meyer, Alvin Lee Meyer, Helen V. Meyer, Louise Stella Meyer, Y. David University of Louisville	N.Y. Ohio Va. Va. D.C. D.C.	Messinger, Charles Wessley Messinger, Joseph Louis, Jr. A.B. 1951, The George Washington University	Va Maine
Meyer, Esther Elizabeth A.B. 1949, Johns Hopkins University	Fla. Pa.	Messinger, William Henry, Jr. Messinger, William Joseph A.B. 1947, University of Pittsburgh	Md Va
Meyer, Robert J. A.B. 1949, Pennsylvania State College	Md.	Metzger, Henry Kirk Metzger, Kirk Oliver A.B. 1948, The George Washington University	D.C. Minn.
Meyer, Joseph Jackson A.B. 1949, University of Virginia	Pa.	Metzger, Heloise Michelle Metzger, Joseph Anthony LL.B. 1941, St. Louis University M.B.A. 1946, Harvard University	D.C. Mo
Meyer, Edward Joseph A.B. 1949, The George Washington University	Ga.	Metzger, Mary Gertrude	Va.
Meyer, Mary Tallmadge Meyer, Charles Eugene Meyer, Victor Mario	D.C. D.C. Md.		



Metzner, Norma Rich	D.C.	Mikusinski, Wilhelmina M.	Pa.
A.B. 1946, University of Wisconsin		Milano, Dominick Joseph	D.C.
Meyers, Yvonne Therese	Ariz.	Milazzo, Salvatore Louis	N.Y.
Meuth, Georgeanna Sledge	Ky.	B.S. 1950, Georgetown University	D.C.
A.B. 1950, Randolph-Macon Woman's College		B.S. 1950, United States Merchant Marine Academy	D.C.
Meyer, Ando Xanar	Nebr.	Milby, Katherine Rebecca	Va.
Meyer, Calbot Willester	D.C.	B.S. 1917, Longwood College	Ob.
Meyer, Carolyn Wagner	Md.	Miles, Abbie Catherine	D.C.
Meyer, Charlton George	D.C.	Miles, Benjamin Cottman	Md.
Meyer, Elizabeth Anne	Va.	Miles, Enrique	D.C.
Meyer, Gerald Lewis	Iowa	C.E. 1938, University of Cincinnati	
Meyer, Hanny Friedel	Va.	Milench, Ann Theresa	Me.
A.B. 1950, The George Washington University		Milero, Anthony Frank	Pa.
Meyer, Lucille W.	Tex.	A.B. 1930, St. John's College	D.C.
Meyer, Marie Watrous	D.C.	Milbham, Roger Frank	
Meyer, Robert William	N.Y.	Milhone, Lillian Lucy	
A.B. 1939, Adelphi College		Miltner, Gustave David	Ch.
Meyer, William Henry, Jr.	Wash.	B.S. in P.E. 1950, The George Washington University	Ch.
Meyer, Yara Darrell	Va.	Millar, Glenn Collins	Me.
Meyrowitz, Jack Morton	D.C.	Millar, Ronald K.	
Meyers, Beverly Anne	N.D.	A.B. 1911, San Diego State College	
A.B. in Govt. 1951, The George Washington University		Millard, Edith Brookhart	
Meyers, Hugh Truman	D.C.	A.B. 1944, The George Washington University	
A.B. in Govt. 1951, The George Washington University		A.M. 1917, University of Chicago	Va.
Meyers, Marjorie Castle	D.C.	Miller, Allen Howard	D.C.
B.O.E. 1942, Ithaca College		Miller, Barbara Lee	
Meyers, Yvonne T.	D.C.	Miller, Buster Wallace	Va.
Meverson, Carla	England	A.B. 1950, University of Virginia	
A.B. 1941, University of Michigan		Miller, Carl	Va.
Meverson, Ted Leroy	D.C.	B.S. in E.E. 1918, Kansas State College of Agriculture and Applied Science	Pa.
Michael, Frank	D.C.	Miller, Carolyn Ann	Pa.
Michael, Richard Morton	Ohio	Miller, Charles Edgar	Pa.
B.S. 1949, Bates College		Miller, Charles Eugene	Va.
Modick, Joseph Leonard	Pa.	Miller, Charles Harrison	
Modick, Lovell R. Richard	Maine	Miller, Charles Robert	
Modick, Robert William	Fla.	Miller, Charles V.	Ch.
B.M.E. 1950, New York University		B.S. in E.E. 1915, Carnegie Institute of Technology	
Michels, Lawrence	N.Y.	Miller, Clayton Louis	
B.S. 1946, Brooklyn College		B.S. 1947, United States Naval Academy	
Michels, Vera Edward	Mont.	A.M. 1950, Stanford University	Me.
Michelsen, Clio Phyllis	D.C.	Miller, Dana Prescott, Jr.	Pa.
A.B. 1941, The George Washington University		Miller, Daniel Leo	Me.
Michelsen, Paul Frederick	D.C.	A.B. 1951, State University of Iowa	
Michelson, Allen	N.Y.	A.B. 1951, State University of Iowa	
B.S. 1948, M.P.A. 1949, New York University		Miller, David William	Pa.
Michini, Louis Joseph	Del.	Miller, Doris Elaine	
A.B. 1941, University of Delaware		A.B. 1945, University of Minnesota	
M.S. 1949, The George Washington University		Miller, Edith Evelyn	Pa.
Mickelsen, Carolyn Ann	Va.	A.B. 1951, University of North Carolina	
Miller, Wendell G.	Pa.	Miller, Edith Lillian	D.C.
A.B. 1941, Allegheny College		A.B. 1952, Syracuse University	
Miller, Thomas Albert	Va.	Miller, Edwin Cyrus	
Miller, Helen Louise	Pa.	A.B. 1949, Mollenberg College	
Miller, Elizabeth Suzanne	Tex.	Miller, Frank Nelson	
Miller, Marvin Gilbert	D.C.	B.S. 1941, M.D. 1948, The George Washington University	
Miller, Albert John		Frederick McKenzie	
B.S. 1950, Georgetown University		Miller, G. Brown III	
Misfeld, Roger Randolph	Wis.	Miller, George Martin	
B.S. 1949, University of Wisconsin		A.B. 1950, George Peppercorne College	
Misael, Geronimo	Va.	Miller, Georgia Ann	
Miso, Kazuo	Hawaii	Miller, Gerald Joseph	
A.B. 1947, University of Hawaii		Miller, Harry John	
Miklus, Helen	Ohio	Miller, Howell Douglas	
B.S. 1951, Kent State University		D.V.M. 1941, Agricultural and Mechanical College of Texas	
Mikun, Isabelle Mary	Mass.	Miller, Hugh Michael, Jr.	
B.S. 1946, Simmons College			

# Students Registered

513

Miller, James Garvin B.S. 1949, Roanoke College	Va.	Milliken, John Gordon B.S. 1949, B.E. 1950, Yale University	Colo.
Miller, Jane Winsor	D.C.	Milliken, William Harold	Ga.
Miller, Jean Lois	D.C.	Million, Mary Hampton	D.C.
Miller, Jim Dick B.S. 1939, United States Naval Academy	Tex.	A.B. 1928, University of Alabama	
Miller, John Alexander	D.C.	Millner, Elliott A.B. 1948, A.M. 1949, The George Washington University	D.C.
Miller, John Charles, Jr.	D.C.	Mills, Annie Louise	D.C.
Miller, John Richard	Pa.	Mills, Barbara Elizabeth	Va.
Miller, Joseph Adolph	D.C.	Mills, Donald Lee	D.C.
Miller, Joseph Edward	Md.	Mills, George F.	N.Y.
Miller, Julia May	Iowa	Mills, James Slagle	Va.
Miller, Keith High A.B. in Govt. 1950, The George Washington University	Md.	Mills, Mary Sibold A.B. 1911, College of William and Mary	Md.
Miller, Lewis Baruch A.B. in Govt. 1950, The George Washington University	Va.	Mills, Sarah Louise	D.C.
Miller, Lucile Florence		Mills, Scott Albert	D.C.
Miller, Lyda Harry	Va.	A.B. 1947, Grinnell College	
Miller, Margaret Elizabeth	Ill.	Milne, Jack Gillespie	Pa.
A.B. 1948, Bryn Mawr College	D.C.	Milne, Robert Eugene	D.C.
Miller, Maurice Myles B.S. 1948, The George Washington University		Milos, John Francis A.B. 1911, Dartmouth College	Md.
Miller, Melvin Eugene	Va.	A.M. 1912, Columbia University	
Miller, Mildred Cobb	Pa.	Milovanovic, Vesna V.	D.C.
Miller, Mottel, Alfred A.B. 1949, A.M. 1950, Ohio State University	Va.	Minto, William Edward	Md.
Miller, Norma	Ohio	Milton, Mary Elizabeth	D.C.
B.S. 1942, Indiana University		Minard, William Douglas, Jr. B.S. 1941, Queens College	N.Y.
B.S. 1940 J.	Ind.	Minasian, George A.B. 1938, The George Washington University	N.Y.
A.M. 1942, Mississippi State College	Miss.	Miner, John Odgers B.S. 1941, United States Naval Academy	Va.
A.M. 1942, American University		Miner, Newton Arthur	D.C.
Miller, Rachel Craft	Pa.	Minick, Ralph Hue	Va.
Miller, Ray Lee	Va.	Minkler, Whitney Sheldon	Conn.
Miller, Raymond Louis	S.C.	Minne, Mary	
A.B. 1948, Belknap	D.C.	Minor, Robert Center	Va.
A.M. 1948, University of Maryland		Minor, Sophia Grouch	Md.
Miller, Robert Earl		Minotti, Joseph Albert, Jr. A.B. 1948, Harvard University	Va.
Miller, Robert F. B.S. 1948, Franklin and Marshall College	Va.	Minosky, Milton Carl B.S.F. 1948, M.F. 1949, University of Michigan	Ore.
Miller, Robert Thomas B.S. 1949, Rivers University	Pa.	Minsky, Horace Seymour	D.C.
Miller, Ronald William		Mirakian, Paul, Jr.	Va.
Miller, Roy Lee A.B. in Ed. 1947, Bridgewater College	N.J.	Misner, Lucille Vroman	Puerto Rico
Miller, Ruth G.	D.C.	Misenheimer, Martin David	Md.
Miller, Stanley Peter	Va.	Misra, Joseph Karl Newland B.S. 1938, Georgetown University	Calif.
Miller, Theodore Ross		Miskovsky, Milton Carl B.S.F. 1948, M.F. 1949, University of Michigan	Ill.
Miller, Theodore Telford	Md.	Mislove, Norman John	
B.S. 1948, United States Naval Academy	Va.	Mitchell, Alexander MacDonald	D.C.
Mitchell, Apnes B.S. 1940, University of Michigan	Md.	Mitchell, Amersy A.B. 1946, Vanderbilt University	Va.
Mitchell, Virginia Blake	Pa.	Mitchell, Anita Floyd	Md.
Mitchell, Virginia Jane B.S. 1948, College of Wooster		Mitchell, Anna Leon B.S. in Ed. 1942, University of Georgia	D.C.
Mitchell, Walter Wier	Mich.	Mitchell, Arthur Ray	Va.
Warren C. B.S. 1948, University of Maryland	D.C.	Mitchell, Charles Bradford Ph.D. 1948, A.M. 1949, Ohio Wesleyan University	D.C.
Mitchell, William James B.S. 1948, University of Maryland	Ohio	A.M. 1948, Ph.D. 1949, Harvard University	N.H.
Mitchell, William L. B.S. 1948, Georgetown University	Va.	Mitchell, Charles Franklin	
B.B.A. 1939, University of Texas	N.Y.	Mitchell, Clyde Albert	Miss.
	Va.	Mitchell, David Lee	Va.
	Tex.	Mitchell, Elizabeth	Fla.
		Mitchell, Fonda Nola	Va.
		Mitchell, Henry Lewis, Jr. B.S. 1947, Pennsylvania State College	Ark.
			Va.



Mitchell, Jean Winters	Va.	Monroe, Charles Stephen	Ta.
Mitchell, Joann Amelia	Va.	B.S. 1919, Virginia Polytechnic Institute	Pa.
Mitchell, John Joseph	D.C.	Monroe, Fita Mae	Pa.
B.S. 1917, Boston College		Monson, Donald Wesley	Pa.
L.L.B. 1942, Georgetown University		Monsour, Donald Thomas	Pa.
Mitchell, Leroy William	Ill.	Montag, Alfred Carl	Pa.
B.S. in E.E. 1949, Rose Polytechnic Institute		B.S. in M.E. 1950, Case Institute of Technology	Pa.
Mitchell, Marie R.	D.C.	Montague, Joseph Leon	Pa.
A.B. 1942, Middlebury College		B.S. in B.A. 1949, University of Denver	Pa.
Mitchell, Marilyn Ruth	Va.	Montague, Lewis David	Pa.
Mitchell, Mary Eleanor	D.C.	Montague, William Eugene	Pa.
Mitchell, Robert Cleo	D.C.	A.B. 1951, The George Washington University	Pa.
Mitchell, Robert Jonett	Md.	Montchermasse, Anita Pablo	Pa.
B.S. in A.E. 1943, Cornell University		Montemmarco, Louis Joseph	Pa.
Mitchell, William Husakley	Va.	Montenegro, Donal Webster	Pa.
Mychum, Paul Arnold, Jr.	D.C.	A.B. 1942, University of Florida	Pa.
B.S. 1951, High Point College		Monten, Elva	Pa.
Mittleman, Dorothy Ann	D.C.	Montgomery, Margaret Mary	Pa.
Mossie, Charles Andrew	Tex.	Montgomery, Margaret Reeson	Pa.
Moxon, Beryle Wynelle	Md.	Montgomery, Robert Hayes	Pa.
Muell, Robert Harley	Md.	Montgomery, Robert Massey	Pa.
Muelle, Fenton Vivian	Pa.	Montgomery, Robert Massey	Pa.
Muzer, Joseph John	Md.	A.B. 1949, Arkansas State College	Pa.
Mwale, Elise Woodson		Montgomery, Virgil Lee	Pa.
A.B. 1949, Goucher College		Montello, Mary Lou	Pa.
Mables, Winston Summerfield	Fla.	Montaka, Arthur Dale	Pa.
Mader, Irving	N.Y.	Monyak, John George	Pa.
A.B. 1948, The George Washington University		B.S. 1948, Geneva College	Pa.
Maddin, Albert Jay	D.C.	Moody, Horace Ray	Pa.
B.S. M.S. 1949, The George Washington University		Moody, Rose Marie	Pa.
Moe, Albert Ferdinand	Calif.	Mooney, William Ray	Pa.
B.S. 1928, University of California		A.B. 1949, James Millikin University	Pa.
Moe, Alfred Ross	Va.	Moore, Barbara Catherine	Pa.
A.B. 1941, The George Washington University		Moore, Cecil Lee, Jr.	Pa.
Moe, Jane Gable	Ohio	Moore, Joan Marie	Pa.
B.S. 1941, University of Minnesota		A.B. 1942, University of Maryland	Pa.
Moe, Robert Shelton	Minn.	L.L.B. 1948, The George Washington University	Pa.
Moetz, J. Travis	D.C.	Mooney, Ann Louise Aldrich	Pa.
Moeller, Marian	N.C.	A.B. 1948, Columbia University	Pa.
Moerman, Constance Levenson	D.C.	L.L.B. 1950, New York University	Pa.
A.B. 1948, The George Washington University		Mooney, James Joseph	Pa.
Moellert, Jane Lee	D.C.	L.L.B. 1951, New York University	Pa.
Moellert, Samuel John	D.C.	Mooney, Mack Wendel	Pa.
B.S. 1950, The George Washington University		Mooney, Patricia Ann	Pa.
Moeller, Charles Henry, Jr.	Va.	A.B. 1944, College of Mines and Metallurgy, N.Y.	Pa.
Moeller, David Rodin	D.C.	A.M. 1944, East Texas State Teachers College	Pa.
Moers, Edna Alice	N.D.	Mooney, Robert James	Pa.
B.S. in H.E. 1947, The George Washington University		B.E. in M.E. 1947, Yale University	Pa.
Mohr, Casper Frank	Va.	Mooney, Stewart Walter	Pa.
Mohr, David Rudlen	Va.	Moore, Betty Clifton	Pa.
Mohr, Paul James	N.Y.	A.B. 1953, Florida State University	Pa.
Mohr, M. Donald	D.C.	Moore, Albert LaRue, Jr.	Pa.
Moore, Roy McGee	Md.	Moore, Hubert Ruth	Pa.
Moloney, John Brumley	Md.	Moore, Boyd Quincy	Pa.
B.S. 1947, Tufts College		L.L.B. 1949, The George Washington University	Pa.
Molynaux, John William		Moore, Cecil Eugene	Pa.
A.B. 1942, The George Washington University		Moore, Charles A.	Pa.
Monahan, Barbara Ann	D.C.	Moore, Clifton Eugene	Pa.
Monastevsky, Edward	D.C.	B.A.F. 1949, I.J.M. 1950, University of Mississippi	Pa.
Monastevsky, Maryonette Mignonette	Ill.	Moore, Dan McCarty	Pa.
Monastevsky, Earl Jay	Mich.	Moore, David Lewis	Pa.
A.B. 1951, The George Washington University		A.B. 1946, Harvard University	Pa.
Monroe, Francisco Penezo	Philippines	Moore, Donald Francis	Pa.
B.S.C. 1948, Atellano University			



# Students Registered

515

Moore, Douglas Hamilton, Jr. B.S. 1950, The George Washington University	Md.	Moreland, Alice Prince	Kans.
Moore, Earl Kenneth		Moreland, Chester Martin	D.C.
Moore, Edward Taylor		Moreland, William Crawford	Md.
Moore, Elmer Lee	Tenn.	B.S. 1951, Yale University	
Moore, Frank John	Tex.	Moren, Clarence Gill	D.C.
B.S. 1940, University of California	Md.	A.B. in Govt. 1950, The George Washington University	
A.M. 1950, School of Advanced International Studies	Calif.	Morenko, O. Dorothy	Pa.
Moore, George Edward		Moreno, Verone Josephine R.	D.C.
B.S. in M.E. 1940, Vanderbilt University	Va.	Morgan, Bertha Leota	W Va.
Moore, George Russell		A.B. 1942, Fairmont State College	Pa.
Moore, Henrietta S.	Va.	Morgan, Donald Ray	Va.
Moore, James Edward	Ind.	Morgan, Glenn Franklin, Jr.	W Va.
Moore, Jesse Myatt	D.C.	Morgan, John Herschel	W Va.
Moore, John Arthur	Ark.	A.B. 1950, Salem College	
Moore, Laura Anne	Va.	Morgan, Louis Tallentire	Va.
B.S. 1927, George Peabody College for Teachers	D.C.	Morgan, Robert Campbell	Va.
Moore, Margaret Anne		Morgan, Robert Eltonzo	Md.
Moore, Marion		B.S. in Eng. 1950, The George Washington University	
A.B. 1949, University of Arizona	Va.	Morgan, Robert Henry	Md.
Moore, Martha Jean	Ariz.	Morgan, Robert Strong	Tenn.
Moore, Maurice Malcolm	D.C.	Morgan, Remda G.	D.C.
A.B. 1942, Williams College	Minn.	Morgan, Shirley Ann	N.Y.
M.B.A. 1946, Harvard University		Morgenstern, Edwin Alan	
Moore, Mary Stockstill	Md.	B.S. 1946, Long Island University	
A.B. 1949, Ed.M. 1950, University of Massachusetts		Morpet, Clarence Abner	Md.
Moore, Patricia Anne		Moriarty, Sarah Catherine	W Va.
Moore, Patricia Catherine		A.B. 1926, Trinity College	
Moore, Orlene Lee	D.C.	Morin, Joseph Evans Proctor	Calif.
Moore, Richard Le Compte	Va.	A.B. 1942, Stanford University	
A.B. 1952, University of Oregon	D.C.	Moritz, Andrea Bruce	S.D.
Moore, Robert Lee	Oreg.	A.B. 1942, University of South Dakota	
Moore, Ruth G.		Morlock, Charles Calvin	Mont.
A.B. 1942, Donne College	D.C.	Mosley, Christina Bird	D.C.
Moore, Samuel Varick	D.C.	Mosley, John Royal	N.J.
B.S. 1942, University of Maryland		A.B. 1949, Marietta College	
Moore, Susan Fawcett	D.C.	Morley, Richard Gordon	Va.
A.B. 1940, Bethany College	W Va.	Murley, William Marshall	D.C.
B.S. 1948, Carnegie Institute of Technology		Moroney, John Joseph	D.C.
Moore, Thomas Wesley		B.S. in P.S. 1951, Georgetown University	
Moore, William Edward		Moroz, Walter Stanley	Md.
A.B. 1949, West Virginia University	Va.	Morra, Joseph John	D.C.
Moran, Jose Antonio	W Va.	Morrell, Donald Clark	N.Y.
Morales, Jose Loma Silva de		A.B. 1949, Colgate University	
A.B. in Govt. 1951, The George Washington University	D.C.	Morrell, Roger Merritt	Md.
Mandley, Donald Chauncey	D.C.	B.S. 1950, Haverford College	
Mandley, Norman George	Md.	Morris, Albert C.	N.Y.
A.B. 1950, University of Puerto Rico	D.C.	B.S. in C.E. 1914, Manhattan College	
Moran, Andrew John		Morris, Blanche Lucille	Va.
Moran, Barbara Marie		A.B. 1925, Ohio Wesleyan University	
A.B. in Govt. 1949, The George Washington University	Md.	Morris, Donald Charles	Pa.
Moran, Charles Vincent	D.C.	Morris, Elizabeth L. M.	N.J.
A.B. 1949, The George Washington University		B.S. 1933, New Jersey College for Women	
Moran, David Horsey	Md.	Morris, James Philip	N.C.
Moran, Emma Leon		A.B. in Govt. 1950, The George Washington University	
Moran, Lella Robert	D.C.	Morris, Laura Mead	Va.
A.B. 1946, Hood College	Md.	Morris, Leon Morrell	D.C.
B.S. in L.S. 1947, Drexel Institute of Technology		A.B. 1930, A.M. 1919, University of Kentucky	
Moran, Leroy		Morris, Virginia	
A.B. 1949, Lynchburg College	Va.	Morrison, Carson Carmon	Md.
Moran, Peter Joseph		A.B. 1928, Pacific Union College	Md.
Morhead, Robert Emmet	D.C.	M.S. 1947, University of Southern California	
Morhouse, William Edward	Md.	Morrison, Clarence Ellis	W Va.
Morhouse, Lucille Vivian	Va.	A.B. 1918, M.S. 1947, Marshall College	

Morrison, Claude Oliver B.S. in Ed. 1944, University of Nebraska	Ala.	Mower, Dorothy Barbara A.B. 1940, Boston University
Morrison, Clyde Walter, Jr. B.S. 1950, Kansas State Teachers College	Mo.	Mowry, Boardman Shaw B.S. in C.E. 1940, Purdue University
Morrison, James Robert B.S. in M.E. 1944, Lehigh University	D.C.	Mowry, Doris L. Mowshowitz, Eleanor Joyce
Morrison, Ralph Robert	N.Y.	Moxham, Robert Morgan B.S. 1942, Ohio State University
Morrison, Thomas Lloyd	D.C.	Moxley, George King
Morrissey, Raymond	Md.	Moy, John Gong
Morrow, Mary Lou	Va.	Moyer, Donald Marvin
Morse, Marjorie Lee	Pa.	Moyer, Wilbur Joseph A.B. 1936, St. Francis College
Morse, Walter Herbert A.B. 1942, Princeton University	Conn.	M.S. 1947, Pennsylvania State College
LL.B. 1948, University of Virginia		Moynihan, Richard Edward
Mortimer, Doris Haignere B.S. 1939, Ohio State University	D.C.	Muchlhouse, William
Morton, Mary Alice B.Mus. 1945, Coe College	D.C.	Mueller, K. Marie
Moseley, Aralyn Virginia		Muench, Peter H. B.F.S. 1949, University of Southern California
Moseley, Edward Carleton B.S. 1950, Lynchburg College	Ark.	Muenchow, William F. A.B. 1935, University of Wisconsin
Moseley, Judith Ramona	Va.	Muhonen, Oliver Adolph
Moser, Bernece	Ark.	Muir, Matthew Sharp B.B.A. 1944, University of Washington
Moser, Ernest Cleveland	Mo.	Mukasa, George Mitoni A.B. 1942, University of Washington
Moses, Harry Millford B.E. 1949, Johns Hopkins University	Va.	Mula, Salvatore Ralph
Mosher, Annette M.	Calif.	Mularick, Albert Andrew
Mosher, Thomas Frederick	Fla.	Mullard, Roger Elton B.S. 1946, Cornell University
Moskowitz, Margaret M.	Iowa	Mulkey, Ruth Ellen
Moskowitz, William	D.C.	Mulkey, Thomas Charles
Mosman, Janet Farnham	N.Y.	Mullarney, John Kenneth
Mosman, Kenneth Freeman A.B. 1951, The George Washington University	D.C.	M.E. 1950, Stevens Institute of Technology
Mosner, Edward F.	D.C.	Mullen, Clarence Robert
Moss, Arthur Robert B.S. 1940, College of the City of New York	D.C.	Mullenore, Betty Jane A.B. 1948, The George Washington University
Moss, Frank H. A.B. 1936, A.M. 1940, University of Chicago	Ill.	Mulligan, Charles Loy A.B. 1928, Western Maryland University
Moss, Leona Penhardt B.S. 1949, Temple University	Va.	Mullikin, Thomas Wilson A.B. 1930, University of Tennessee
Moss, Robert Abner	Okla.	Mullin, Helen Marie
Moss, Robert Cramton	Mass.	Mullin, Roger William, Jr. A.B. 1919, Brooklyn College
Moss, Thayer David B.S. in Ed. 1947, Bucknell University	N.J.	A.B. 1919, Fordham University
LL.B. 1951, Georgetown University		Mullins, Paul Everett A.B. 1948, University of North Carolina
Mote, Walter Leo	Colo.	Mullins, Ernest Brown
Motoki, Sen'aro A.B. 1949, Tokyo University	Japan	Mullins, Jessie Edith A.B. in Govt. 1947, The George Washington University
Mottram, Ralph Joseph A.B. 1944, Williams College	Md.	Mullins, Oleville Russell
A.M. 1945, Brown University		Mullins, Walter Chesterfield
Mott, Frank Douglas A.B. 1949, Dartmouth College	Mich.	Mullon, Franklin Gerald B.S. 1947, University of New Hampshire
Mott, Mary Louise	Va.	Mulloy, Henry Edward A.B. 1948, A.M. 1949, University of Missouri
Mowbray, Harold Carlton	D.C.	Mulner, Leona Barbara
Mould, Richard Edward B.S. 1949, B.E. 1951, College of Puget Sound	Wash.	Mumford, Alura Anne
Moulton, John Luray	Md.	Munaf, Oreste Louis
Moulton, Sally Marie	N.Y.	Munan, Louis Pat A.B. 1948, M.S. 1950, The George Washington University
Mountain, Raymond	D.C.	Mundy, John Leo A.B. 1948, Lafayette College
Muere, Rupert Francis A.B. in Ed. 1951, The George Washington University	S.C.	
Mouzon, Isabelle Gordon A.B. 1949, Winthrop College		



### Students Registered

517

Students Registered		517
Mundy, John Price	A.B. 1940, Bridgewater College	
Munford, Barbara Anne	A.M. 1948, University of Virginia	
Munn, John Ivan	B.S. 1946, Indiana State Teachers College	
Munn, Robert Hector	M.S. 1951, The George Washington University	
Munro, Sanford Sterling	A.B. 1950, Davis and Elkins College	
Munson, Marlene Marie	B.S. 1951, The George Washington University	
Munson, Thomas Richard	A.B. 1950, State College of Washington	
Munz, John Allen	A.B. 1950, State College of Washington	
Munz, Otto John	M.A. 1950, State College of Washington	
Murray, Ernest E.	B.S. 1950, Kent State University	
Murphy, Vernon Scott	A.B. 1950, State College of Washington	
Murdoch, Ray Clair	Murdoch, Ben Joseph	
Murdoch, Ben Joseph	Murdoch, Cinda Lee	
Murdoch, James Baird, Jr.	Murdoch, Overton Lee	
Murdoch, Overton Lee	Murphy, Dinnu Alexandrescu	
Murphy, Dinnu Alexandrescu	Murphy, Jesse Oran	
Murphy, Jesse Oran	Murphy, Randolph Clay III	
Murphy, Randolph Clay III	A.B. 1947, Harvard University	
Murphy, Andrew Philip, Jr.	LL.B. 1949, Boston University	
Murphy, Barbara Fuller	A.B. 1949, The George Washington University	
Murphy, Charles Louise	Murphy, Claire Mary	
Murphy, Eugene Martin	B.S. in F.S. 1949, Georgetown University	
Murphy, Harriet McAndrew	B.S. 1948, Wilson Teachers College	
Murphy, Harriet Searcy	A.B. 1948, University of Alabama	
Murphy, James Emmett	B.S. 1948, Georgetown University	
Murphy, John Alexander	B.S. 1948, James Millikin University	
Murphy, John Atwell	B.S. 1948, James Millikin University	
Murphy, John William	Murphy, Joseph Lawrence	
Murphy, Joseph Lawrence	A.B. 1948, LL.B. 1949, The George Washington University	
Murphy, Joseph Patrick	Murphy, Lawrence Marselles	
Murphy, Lawrence Marselles	B.S. 1948, Cornell University	
Murphy, Leo Joseph	Murphy, Lucetta Anne	
Murphy, Lucetta Anne	Murphy, Raymond Augustine	
Murphy, Raymond Augustine	A.B. 1941, St. Lawrence University	
Murphy, Richard Ernest	Murphy, Robert Lawrence	
Murphy, Robert Lawrence	Murphy, Thomas Harry	
Murphy, Thomas Harry	B.S. 1940, M.S. 1949, United States Naval Academy	
Murphy, Thomas Watson	Murphy, William Gainer	
Murphy, William Gainer	B.S. 1949, University of Akron	
Murphy, William Raymond, Jr.	Murphy, William Thomas	
Murray, Betty Lucile	A.B. 1931, Georgia State College for Women	
Murray, Elizabeth Louise	Murray, Helen Holden	
Murray, Helen Holden	A.B. 1926, Marietta College	
Murray, Imelda Frances	Murray, James Glick	
Murray, James Glick	B.S. in M.E. 1948, University of Maryland	
Murray, John Joseph, Jr.	B.S. 1949, Boston College	
Murray, John Norman	Murray, Joseph	
Murray, Joseph	B.S. 1949, University of Richmond	
Murray, Joseph Earl	Murray, Malcolm Holden	
Murray, Sally Regina	Murray, Thalia Kyros	
Murray, Thalia Kyros	A.B. 1948, Radcliffe College	
Murtha, Mary Margaret	Muska, Joseph Louis	
Muska, Joseph Louis	B.S. 1944, United States Coast Guard Academy	
Muskett, James William	B.S. 1950, St. Joseph's College	
Mussolino, Anthony Frank	Mussolino, Holmes Dewey	
Mussolino, Holmes Dewey	Mussey, Richard Andrew	
Mussey, Richard Andrew	Myers, Charles Stillwell, Jr.	
Myers, Charles Stillwell, Jr.	Myers, George Albert, Jr.	
Myers, George Albert, Jr.	Myers, George Ford	
Myers, George Ford	Myers, Gertrude	
Myers, Gertrude	A.B. 1945, The George Washington University	
Myers, Harold	Myers, Harry Willard	
Myers, Harry Willard	Myers, Jacob Eugene	
Myers, Jacob Eugene	Myers, Jesse Larue, Jr.	
Myers, Jesse Larue, Jr.	Myers, Richard Ira	
Myers, Richard Ira	Myers, Saul Meredith	
Myers, Saul Meredith	Myers, Thad Prentice, Jr.	
Myers, Thad Prentice, Jr.	A.B. 1951, The George Washington University	
Myers, Thomas Ellsworth	Myler, James L.	
Myler, James L.	Myles, Harley Decker	
Myles, Harley Decker	Myrianthopoulos, Ntinios Cleyoulou	
Myrianthopoulos, Ntinios Cleyoulou		
Nabil, Yadollah	Nabulis, Martha Dewell	
Nabulis, Martha Dewell	Nace, Charles Derick	
Nace, Charles Derick	B.S. 1949, United States Naval Academy	
Nachtheim, John J.	B.S. in N.A. and M.E. 1947, Webb Institute of Naval Architecture	
Nader, Demetri Edward	Nacker, June F.	
Nacker, June F.	Nacker, Priscilla Margaret	
Nacker, Priscilla Margaret	Nagle, Millard Howe, Jr.	
Nagle, Millard Howe, Jr.	Naylor, Norbert	
Naylor, Norbert	Navy, Louis James	
Navy, Louis James	Navy, Ruth Catherine	
Navy, Ruth Catherine	Nad, Edwin Starkey	
Nad, Edwin Starkey	Nairn, Peter David	
Nairn, Peter David	B.S. 1947, Massachusetts Institute of Technology	
Najarko, Edward George	B.S. 1946, University of Pennsylvania	



Nakashima, Sumio	Hawaii	Nejzschleb, Vladimir	Va
Nall, Berry Hudson, Jr.	Md.	Nelson, Arthur Edward	NJ
Nall, Mabel Lexton	D.C.	B.S. 1949, Upala College	Ala.
B.S. 1948, The George Washington University		Nelson, Ethelyn Barnett	Tex.
Nall, Robert Carl	Ky.	Nelson, Helen Mae	Ark.
A.B. 1950, Western Kentucky State College		A.B. 1950, San Diego State College	D.C.
Nally, Jacqueline Olivia	D.C.	Nelson, James W.	Va
Nalla, John Willard, Jr.	Md.	Nelson, John Charles	Mo.
Nanna, Emmett Hiram, Jr.	Md.	A.B. 1949, University of Denver	D.C.
A.B. 1950, University of Maryland		Nelson, Kenneth La Mar	Fl.
Naquin, Frances Lorraine	Va.	Nelson, Kermit Chester	
Nardini, John Paul	Va.	Nelson, Lalide Whittington	
Nargizian, Edward Arsen	N.Y.	Nelson, Mary Jane	SD
A.B. in Govt. 1950, The George Washington University		A.B. 1948, The George Washington University	D.C.
Narin, Alvin Aaron	Pa.	Nelson, Merle Ellsworth	
B.S. 1952, Temple University		B.B.A. 1949, University of Minnesota	
Nash, Ruth Crandon	R.I.	Nelson, Orvin L.	Va
Nash, William Henry	N.Y.	A.B. 1941, William Jewell College	D.C.
Nashwa, Sylvia Aiko	Hawaii	Nelson, Paul Eugene	
Nasou, John Peter	Md.	B.S. 1949, Pennsylvania State College	Va
A.B. 1947, University of Minnesota		Nelson, Raymond Arthur	D.C.
Nassimbene, Raymond	D.C.	A.B. 1941, Tusculum College	Calif.
B.C.S. 1941, University of Denver		Nelson, Raymond Martin	
Nathanson, Roberta Lois	D.C.	Nelson, Reinhold Edward	
Nathanson, Shirley	D.C.	Nelson, Stuart David	
Natvaratati, Suthce	Md.	A.B. in Govt. 1948, A.M. in Govt. 1949, The George Washington University	Ark.
Navarro, Cora	Va.	Nelson, Warren James	Ark.
Nav, Harold Edgar	Pa.	B.S. 1948, University of Wisconsin	
Nazarek, Genevieve Dolores	Pa.	Nelson, Wilford O., Jr.	Kan.
Nazarek, Olga Bernadette	Pa.	B.S. 1948, Utah State Agricultural College	
Nazary, Anna Belle	Miss.	Nesbit, Mary Katherine	Va
A.B. 1940, Mississippi State College for Women		A.B. 1943, The George Washington University	Ala.
Neal, Margaret	D.C.	Nesbitt, Betty Rae	Calif.
Neal, Robert Martin	Ga.	Nesbitt, John	N.Y.
A.B. 1948, A.M. 1949, Emory University		Nesmith, Robert Earl	Va
Neal, William Alfred	D.C.	Ness, Rudolph Walter	D.C.
Nearman, Charles Donald	D.C.	Nestor, Rosalie Eleanor	W.
Nearman, Jane Carol	Va.	Neubauer, Florence Perlmutter	
Nearman, Richard Edward	Pa.	A.B. 1949, Hunter College	
Neary, John Matthew	Pa.	Neufeld, Fay	
Nebrow, John Joseph	Md.	Neuman, Arthur Ewald	Mo.
Needham, Donald Alonzo		B.S. 1950, Memphis State College	
A.B. 1939, Clark University	N.Y.	Neumann, Pearl Marie	Mo.
Needham, Kathryn Mary		A.B. 1948, College of William and Mary	
B.S. 1950, St. Bonaventure University	Ill.	Neumann, Richard Keith	D.C.
Needler, William Lowell		A.B. 1951, The George Washington University	Calif.
B.S. 1946, United States Merchant Marine Academy		Neusch, Herman William	D.C.
B.S. 1950, University of Illinois	Conn.	A.B. 1951, The George Washington University	Va
Neeley, Arthur Call		Neushin, Irving	Pa
B.S. 1948, Columbia University	Md.	B.S. 1945, University of Washington	Pa
Neely, James Curtis	N.J.	Nevisser, Albert Edward	Pa
Neely, John Crosby		Nevils, Florence Irene	Pa
A.B. 1951, Colgate University	D.C.	Newberry, Robert L.	Pa
Neff, George Roy	Ill.	Newcomb, Carol Hubbard	Mo.
Neff, Ralph Willard	D.C.	A.B. 1941, Middlebury College	
Negri, John Joseph	N.Y.	Newel, Betty Jean	
Negrine, Elie	D.C.	Newell, Marguerite Dinton	
Negulescu, Paul		A.B. 1947, University of Wisconsin	
B.S. 1951, The George Washington University	Va.	Newey, John Percy	
Neighbors, Walter Draper	N.H.	Newkirk, Edgar Harrison	
A.B. 1950, University of Virginia		Newkirk, George Francis	
Neilon, John James	Wash.	A.B. 1940, A.M. 1948, The George Washington University	
Neils, Jeannette Elizabeth		Newkirk, Joseph Whitfield	
A.B. 1951, University of Washington	Va.	A.B. 1951, Atlantic Christian College	
Neimo, Peter James			
M.S. 1950, Harvard University			

# Students Registered

519

Newkirk, LeRoy			
Newkirk, Roy Francis	D.C.	Niner, Patricia Marie	W.Va.
A.B. in Govt. 1950, The George Washington University	N.J.	Niner, Rosemary	W.Va.
Newland, Mary Ellen		Niskanen, Sue	Va.
Newman, Henry Carl	Va.	Nitti, Josephine Gloria	Va.
B.S. 1949, University of Illinois	Ill.	A.B. 1951, Vassar College	
Newman, Jack		Nitz, Paul Gilbert	Ark.
Seagrass, Noel Clayton	D.C.	Nixon, Charles Richard	Idaho
A.B. in Govt. 1949, The George Washington University	Kans.	B.S. 1950, Idaho State College	
Newson, Marcus Vernie		Nobel, John Phelps	Pa.
Newson, Alice Jewett	Ala.	Noble, Elizabeth Ruth	D.C.
A.M. 1951, University of Chicago	Maine	Noble, William Oliver	Pa.
Newson, Donald Alan	Vt.	Noble, Thelma Jo	Md.
Newson, Frances Elizabeth		B.S. in Ed. 1946, Ohio State University	
Newson, Gordon Quincy	N.C.	Noell, William Cedric	Va.
Newson, James Robert	D.C.	B.S. 1924, Virginia Military Institute	
Newson, Joyce Ann	D.C.	Noevager, Genero Arnold	N.Y.
Newson, Walter Lloyd	N.C.	B.S. 1935, New York University	
B.S. 1942, A.M. 1948, The George Washington University	D.C.	Noguera, Pedro	N.Y.
Ner, Virginia	Md.	Nolan, Arthur Joseph	N.J.
Neuren, Thu Huu		A.B. 1949, Columbia University	
Neuber, Paul Braids	Md.	Nolan, Michael Owen	D.C.
B.S. 1919, United States Naval Academy	D.C.	Nolan, Raymond Vincent	Va.
MS. 1924, Massachusetts Institute of Technology	Va.	Nolan, Rebecca Schell	Fla.
Nicholas, Edith N.		Noland, Dewey Harrison, Jr.	Va.
Nicholas, William		B.S. in C.E. 1951, Virginia Military Institute	
Nichols, Arthur D.	Md.	Nolke, Frederick Henry	Va.
B.S. 1947, Cornell University	Ill.	B.S. 1944, Rutgers University	
Nichols, Lloyd Harden	Pa.	Nolte, Ann Elizabeth	Va.
LL.B. 1949, The George Washington University	D.C.	B.S. in P.L. 1951, The George Washington University	
Nichols, Margaret J.	D.C.	Nonnenmacher, Dale Kenneth	D.C.
LL.B. 1941, University of Chattanooga	D.C.	Nonnan, Carol Barbara	Va.
Nichols, William Joseph		Noone, Anthony	Calif.
Nichols, Louise		Noone, James Henry	Md.
Nichols, Lowell		Noone, Joseph Aloysius	D.C.
Nichols, Robert Hutton	Md.	B.S. 1951, St. Joseph's College	
B.S. 1951, University of Maryland	Tenn.	Nordhoff, James John	Ohio
Nichols, Thomas Alexander		Nordin, Sten Sture	Md.
Nichols, Alvin Jarman	Va.	Nordlund, Harry T.	Wash.
Nichols, Walter John	Pa.	LL.B. 1942, The George Washington University	
Nichols, George Albert	Pa.	Nordness, Gladys Lillian	Minn.
Nichols, Antonio	D.C.	Nordquist, Dean Anthony	D.C.
Nichols, Robert Edward	Wash.	A.B. 1949, University of Iowa	
Nichols, Clyde Edward	Del.	Norman, Ellington Murray	Ga.
A.B. 1955, A.M. 1940, University of Nebraska	Md.	A.B. 1944, University of Georgia	
Nichols, Jesse Patricia		Norman, Henry Robert	N.Y.
Nichols, John B.		A.B. 1951, Western Maryland College	
Nichols, John Walker	Md.	Normandev, Keith Joseph	Minn.
Nichols, John Plummer	N.Y.	Normant, Nancy Richards	D.C.
Nichols, Otto Carl, Jr.	D.C.	A.B. 1951, The George Washington University	
Nichols, Ralph A.	Ill.	Norr, Mariner Krumm	Va.
Nichols, Mathias William, Jr.	Mch.	B.S. 1947, The George Washington University	
Nichols, Marie	Wis.	Norrington, Frances Taylor	Md.
Nichols, John Lillian	Puerto Rico	Norris, Andrew Blossie	Va.
Nichols, John Roger	Md.	A.B. 1947, American University	
Nichols, Gary Jack	Wis.	Norris, Barbara Lee	D.C.
Nichols, Edna La Verne	D.C.	Norris, Charles Walter	D.C.
Nichols, Barbara Joy	D.C.	Norris, Paul Marshall	Pa.
		B.S. 1946, United States Military Academy	
		Norris, Walter Franklin	Mo.
		A.B. 1951, Westminster College	
		Norris, Willa	Nebr.
		B.S. in Ed. 1934, University of Nebraska	
		A.M. in Ed. 1941, Columbia University	
		Norrich, Howard George	Ohio
		B.S. 1951, Case Institute of Technology	



North, Richard Parsons	D.C.	Nuttman, Harold Franklin	Kan.
North, Stanley Underwood, Jr.	Va.	A.B. 1950, The George Washington University	N.Y.
A.B. 1942, Colgate University	Md.	Nuzzo, Vincent Rocco	N.H.
Northover, Edward Ralph	Va.	B.S. 1950, Georgetown University	
Northrop, Anita Maxine	D.C.	Nye, Elizabeth Frances	Md.
Northrop, Monica Ellen	N.Y.	A.B. 1951, University of New Hampshire	
Northrop, Barbara Winifred		Nye, William David	D.C.
A.B. 1937, Elmira College		A.B. 1937, The George Washington University	
A.M. 1949, The George Washington University	Utah	Nykopp, Fritz Dolores Martha	
Norton, Al Merkle	N.Y.	O	D.C.
Norton, Edward James			D.C.
A.B. 1948, Columbia University	Md.	Oakes, Edmund L., Jr.	Harv.
Norton, Elizabeth Rosemary	D.C.	Oakley, George D.	
Norton, Emily McMullan	D.C.	A.B. 1948, University of Hawaii	Va.
Norton, Hugh Stanton		Oakley, Kathleen Winston	D.C.
A.B. 1947, A.M. 1948, The George Washington University	Va.	Oakley, Theodore Smalley	D.C.
Norton, Jack Earl	Va.	Oartel, Ruth Anne	Pa.
Norton, Jean Gertrude	D.C.	B.S. 1950, University of Maryland	
Norton, Leslie Murray		Obarshi, John Paul	D.C.
A.B. 1948, Southwestern Louisiana Institute		B.S. 1945, United States Coast Guard Academy	D.C.
A.M. 1931, Ph.D. 1940, Louisiana State University	Mass.	Obear, Margaret Fealy	Md.
Norton, Miriam	Ill.	Obear, Mildred Fleenor	
Norton, Overton Perry		Oberholzer, John David	D.C.
A.B. 1943, University of Michigan	N.Y.	Oberholzer, John William	D.C.
Norowski, Eugene E.	Md.	A.B. 1949, Earlham College	D.C.
Norwood, Herman, Jr.	Md.	Obert, Ellen Mae	
Norwood, Mary Lowrie		O'Blazney, Andrew Alexius	
A.B. 1948, The George Washington University	Va.	O'Boyle, Patrick Alexius	W.Va.
Northcutt, Rudolph, Jr.	D.C.	O'Brien, Anthony Alexius	R.I.
Northcutt, Kenneth Thompson	Pa.	B.M.E. 1950, The George Washington University	
Noz, Joseph George	Pa.	O'Brien, Charlotte	
Noz, Dan	Va.	O'Brien, Claire G.	D.C.
Nozak, Jovanka	D.C.	Ed B. 1949, Rhode Island College of Education	
Nozer, Naomi Goll		O'Brien, Elizabeth Ann	Md.
B.S. 1934, New York State Teachers College, Buffalo		A.B. in Ed. 1941, The George Washington University	Ind.
A.M. in Ed. 1951, The George Washington University	Md.	O'Brien, Harry Martin	D.C.
Novick, Michael John	Md.	O'Brien, James Dennis	Ind.
Novikova, Lirita	Md.	O'Brien, James Robert	D.C.
Noves, Anne Sheppard		O'Brien, Joseph Gerald	Va.
A.B. 1951, The George Washington University	Md.	O'Brien, Joyce Genevieve	D.C.
Noyes, Howard Ellis		O'Brien, Maella Ann	
A.B. 1948, University of Tennessee		O'Brien, Robert John	
M.S. 1949, Ohio State University	Calif.	Ochipintu, Samuel Joseph	
Nozaki, Joseph N.		O'Connell, Camille	
A.B. 1947, Emmanuel Missionary College	Minn.	A.B. 1949, Barnard College	
Nubbe, Virgil George		O'Connell, James Daniel	
A.B. 1949, The George Washington University	Mo.	O'Connell, John Joseph	
Noll, Phyllis Viola	Va.	O'Connell, Sally Haines	
Nunn, Emily D.	D.C.	A.B. 1951, University of Minnesota	
Nunn, Frances Louise		O'Connell, Thomas Francis III	
A.B. 1948, Xavier College	D.C.	O'Connor, Charles Frederick	
Nunzio, Dominick John		A.B. 1948, The George Washington University	
B.S. in I.E. 1951, University of Miami	Va.	M.B.A. 1949, University of Pennsylvania	
Nusbaum, Bestram S., Jr.	Va.	O'Connor, Edward John, Jr.	
Nusbaum, Lois Silberman	D.C.	O'Connor, Frances Louise	
Nusbaum, Hymie		A.B. 1951, University of North Carolina	
B.S. 1948, L.L.B. 1950, University of South Carolina	D.C.	O'Connor, Isabelle	
Nusbaum, Lloyd Theodore	Va.	O'Connor, James Francis	
Nussel, Gladys W.	D.C.	A.B. 1949, Columbia University	
Nutter, Joan		O'Connor, James Joseph	
		O'Connor, Lawrence Leo	



# Students Registered

521

O'Connor, Margaret Bernice	N.Y.	Olds, Hugh Wilson, Jr.	Calif.
O'Connor, James Ailee	Va.	Olds, Mary Leland	D.C.
O'Dea, Thomas Emmett	D.C.	O'Leary, Rawlin Eugene	Utah
University		O'Leary, Timothy Robert	Mass.
O'Dell, Daniel Gerald		Olexy, Peter Thomas	Md.
Oden, Robert Edward	Md.	B.S. 1919, Pennsylvania State College	
A.B. 1951, University of Tennessee	D.C.	Olin, Wilber C.	D.C.
O'Donnell, Mary Louise		Oliver, Abbie Hanahan	D.C.
A.B. in Govt. 1950, The George Washington University	D.C.	Oliver, Horace Crismond, Jr.	N.J.
O'Donnell, Alice Louise		M.F. 1915, Stevens Institute of Technology	
O'Donnell, Bernard John	Wash.	M.B.A. 1946, New York University	Md.
B.S. 1952, University of Maryland	D.C.	Oliver, Richard Lewis	
O'Donnell, Daniel Paul	D.C.	B.S. 1951, University of Illinois	D.C.
O'Donnell, George William		Olmert, Robert Francis	N.Y.
O'Donnell, Gerald Frederick	D.C.	Olmstead, Normand Henry	
O'Donnell, Isabel Ann Fulton	Pa.	A.B. 1951, The George Washington University	
O'Donnell, Joseph Michael	Va.	Olmstead, William Harris, Jr.	D.C.
A.B. 1951, The George Washington University	Va.	Olmsted, George Leavitt	Va.
O'Donnell, Vincent Leo	Pa.	Olsen, Jane Elda	Wis.
O'Donoghue, William Henry	D.C.	B.S. 1941, Milwaukee State Teachers College	
O'Donoghue, William Henry		Olsen, Miles Sumner, Jr.	Md.
O'Donoghue, William Henry		Olshin, John Seymour	N.Y.
O'Donoghue, William Henry		Olson, Beverly Mitzi	D.C.
O'Donoghue, William Henry		Olson, Darwin Leander	N.D.
O'Donoghue, William Henry		B.S. 1941, North Dakota Agricultural College	
O'Donoghue, William Henry		Olson, George Emil	Aja.
O'Donoghue, William Henry		Olson, Hardin Elling	Va.
O'Donoghue, William Henry		Olson, Margaret Harlan	Ohio
O'Donoghue, William Henry		B.S. in H.E. 1952, The George Washington University	
O'Donoghue, William Henry		Olson, Richard Lionel	Conn.
O'Donoghue, William Henry		A.B. in Govt. 1949, The George Washington University	
O'Donoghue, William Henry		Olson, Ruth Louise	N.M.
O'Donoghue, William Henry		Olson, Shirley Olive	Me n.
O'Donoghue, William Henry		Olson, Sigvald Morris	D.C.
O'Donoghue, William Henry		B.B.A. 1948, University of Minnesota	
O'Donoghue, William Henry		Olzewska, Doris Elizabeth Morgan	Md.
O'Donoghue, William Henry		A.B. 1949, The George Washington University	
O'Donoghue, William Henry		Olzewska, Francis John	D.C.
O'Donoghue, William Henry		O'Malley, Edward Patrick	Pa.
O'Donoghue, William Henry		A.B. 1919, Baylor University	
O'Donoghue, William Henry		M.S. 1948, University of Tennessee	Pa.
O'Donoghue, William Henry		O'Malley, Joseph James	
O'Donoghue, William Henry		A.B. 1946, University of Scranton	D.C.
O'Donoghue, William Henry		O'Meara, William Raymond	
O'Donoghue, William Henry		A.B. in Ed. 1951, The George Washington University	
O'Donoghue, William Henry		On, Frank Joe	D.C.
O'Donoghue, William Henry		Onuf, Andrew James	D.C.
O'Donoghue, William Henry		O'Neal, James David	Md.
O'Donoghue, William Henry		O'Neal, Louise	Ohio
O'Donoghue, William Henry		A.B. 1949, Ohio Wesleyan University	
O'Donoghue, William Henry		O'Neal, Robert Nelson	D.C.
O'Donoghue, William Henry		O'Neil, Virginia L.	Fla.
O'Donoghue, William Henry		O'Neil, John J., Jr.	Mass.
O'Donoghue, William Henry		A.B. 1911, Villanova College	
O'Donoghue, William Henry		O'Neil, Robert Daniel	D.C.
O'Donoghue, William Henry		O'Neil, Salvatore	Puerto Rico
O'Donoghue, William Henry		Ona, Beale Hibbs	N.J.
O'Donoghue, William Henry		O'Neil, Jaroslav George	
O'Donoghue, William Henry		A.B. 1940, Columbia University	
O'Donoghue, William Henry		Onuf, Helen	
O'Donoghue, William Henry		Onuf, John Joseph	D.C.
O'Donoghue, William Henry		Opinion, Rose Chu	Philippines
O'Donoghue, William Henry		Oppenard, Charles Roger	Md.
O'Donoghue, William Henry		Oppert, Donald Eugene	Ohio





# Students Registered

523

Paddock, Marianna A.B. 1944, University of Michigan Washington University Paderford, Edward Aloysius, Jr. B.S. in F.S. 1950, Georgetown University	Ill.	Panneton, Jules Robert Pantalone, Edward John Pao, Siety Pao, Wen-Nien A.B. 1925, University of Nanking Papa, Amelia Carbonell A.B. 1950, College of Mount St Joseph	Va. D.C. China China
Padgett, Glenn Ernest A.B. 1949, Duke University	N.Y.	Papadopoulos, Nicholas M. B.S. 1951, American University	Philippines D.C.
Padias, George Mario Padias, Leo Henry B.M.F. 1951, New York University	Fla.	Papadragos, Olympia Beatrice Papapetru, Mary Paparella, Jerry Joseph Paparella, Robert Joseph Papaz, Louis John Papavania, Betty May Pape, Robert Bruce A.B. in Govt. 1949, The George Washington University	Okla. Wis. Pa. Pa. Tex. Calif. Va.
Paine, Anthony Roland Paine, Anne Robin A.B. 1917, Wofford College	D.C. N.Y. D.C.	Pappafotis, Spero John A.B. in Govt. 1947, The George Washington University	
Paine, Ryan Mender A.B. 1917, Wofford College	N.Y.	Pappas, Leo B. A.B. 1943, High Point College	N.Y.
Paine, Virginia Paine, Jean Betty Pascos, John A.B. 1951, University of Maryland	S.C. D.C. D.C.	Pappas, Stephen S. Paramaskas, Nathalie A.M. 1941, University of Vilnius, Lithuania	D.C. D.C.
Pascos, John A.B. 1951, University of Maryland	D.C.	Paraskevus, John E. Pardee, Arthur Ellsworth, Jr. B.S. in F.S. 1949, Georgetown University	D.C. D.C.
Pascos, Monar A.B. 1946, Clark University	Md.	Pardo, Isador A.B. 1947, Brooklyn College A.M. 1950, University of Wisconsin	
Patt, James Robert B.S. 1924, United States Naval Academy	Ohio	Pardo, Martha Stern Pardollis, Paula Alexandra Ph.B. 1948, University of Chicago	D.C. D.C.
Patt, Margaret Virginia Patt, George Constantine Patt, Thems Constantine B.S. in I.E. 1948, Washington University	D.C. Mo. Mo.	Paris, Henry Breckinridge, Jr. Parise, John James Park, Donald Stuart A.B. 1946, Tufts College Park, Helen Dorothy B.S. 1947, M.S. 1949, The George Washington University	
Patt, Thomas Eugene Patt, Kenneth J. Patt, Margaret Hannah B.S. in Ed. 1943, Central Missouri State Teachers College	Va. Pa. D.C.	Park, Kenneth Lothrop Park, Ruth Madeliss Parker, Austin Smith Parker, Beulah Rayner Parker, Carlene Louise Parker, Charles Harke B.S. 1942, Worcester Polytechnic Institute	
Patt, Eulacio Ramon Patt, Mary Peter Harry Patt, Margaret Mary A.B. 1943, Tufts College	Paraguay D.C. Md.	Parker, Harold Curtis Parker, Hazy Hughes Parker, Henrietta L. Parker, James Lewis Parker, Lou Preston A.B. 1947, Washington College Parker, R. Lino Parker, Ralph William Parker, Ralph William A.B. 1947, Georgetown College B.S. 1947, United States Naval Academy	D.C. D.C. D.C. Md. Va. D.C.
Patt, Arthur Joseph B.S. 1950, Georgetown University	Wis.	Parker, Ross Calvin, Jr. Parker, Ruth Ann Parker, Ruth Taylor Parker, Thomas Henry Parker, Warren Kendall Parker, James Lino A.B. 1947, The George Washington University	
Patterson, Daniel Robert A.B. 1946, Dartmouth College	Mass.		
Patterson, Hubert Clouston, Jr. A.B. 1946, Dartmouth College	Md.		
Patterson, George Marie Patterson, John Warren A.B. in Ed. 1950, The George Washington University	Md. Va. Va.		
Patterson, Karl Gilbert B.S. 1941, Oregon State College	Md.		
Patterson, William David B.S. 1941, United States Coast Guard Academy	Va.		
Patterson, Douglas Edward Patterson, Alfred Frederick Patterson, Louise Arnold B.F. 1948, M.S. 1950, Georgia Institute of Technology	Va. N.Y. Guatemala Ga.		
Patterson, Rayne III A.B. 1947, Washington College	China		
Patterson, Charles Michael Patterson, Gust Patterson, John P. B.S. in I.E. 1947, Tufts College	Mass. Va. Va.		
Patterson, Alfred Anthony B.S. in I.E. 1947, Tufts College	Mass.		
Patterson, Nicholas Anthony B.S. in I.E. 1947, Northeastern University	Mass.		
Patterson, Robert Patterson, Gerard Herbert	N.Y. Va.		



Parkinson, Kenneth Wells A.B. 1950, The George Washington University	Md.	Patterson, Carrie Elizabeth Patterson, Duane Lester A.B. 1950, Denison University	VI Ohio D.C.
Parkinson, Robert Leslie Parkinson, Roger West Parka, Albert Benning A.B. 1943, The George Washington University	Ind. Md. Md.	Patterson, Gordon Alexander B.S. 1919, United States Naval Academy A.M. in Ed. 1951, The George Washington University	Tenn.
Parks, Elmo Blanton Parks, Finley James, Jr. Parks, James Theodore Parmeter, Margaret Anne A.B. 1950, A.M. in Govt. 1951, The George Washington University	Tex. Mass. Va. D.C.	Patterson, John Edward A.B. in Govt. 1951, The George Washington University Patterson, Joseph William Patterson, Roy Marion A.B. 1916, University of Texas	Va. Va. Ohio
Parmly, Dorethe Alexandra Parnell, Richard Griffin A.B. 1948, Texas Agricultural and Mechanical College	D.C. Md.	Patterson, Verda May B.S. in Ed. 1937, Wilson Teachers College	Conn.
Parnes, Leslie Parojinog, Simplicio Cayao, Jr. A.B. 1951, The George Washington University	Mo. Md.	Pattinson, Alice Elizabeth B.S. 1951, St. Joseph College Pattison, Hubert Allen, Jr. B.S. 1950, Michigan State College	Mo. Ohio Calif.
Parriah, Frances Ann A.B. 1944, Bryn Mawr College Parriah, Lola B. Parrott, John Aubrey Parry, James Davidson A.B. 1950, The George Washington University	Mo. N.C. Va. D.C.	Patton, John Strohm B.S. 1941, University of Southern California Patton, Mary Maughan Patton, William Kenneth Patur, Myrette Corinne Paul, Alvin Wilson Paul, Kenneth Leroy Paul, Richard Irving A.B. 1944, Dartmouth College	D.C. Ala. N.Y. Va. Va.
Parsons, John Allen Parsons, John Emory, Jr. B.S. in C.E. 1949, University of Wisconsin	Wash. N.Y.	Paulsen, Jay Stanley Paulsen, Mabel Jean Paulson, Clifford Raeburn B.S. in Eng. 1940, M.S. 1950, University of Michigan	Va. Va. D.C. N.Y.
Parsons, Morton Keith A.B. 1951, Cornell University Partington, Allen Venables Partridge, Donald W. Parulis, Adolph John B.S. 1952, University of Maryland	Md. Md. N.Y.	Paulson, David Paulson, Netta Mameda Paulv, John Frederick Pautowski, Carl Joseph B.S. 1918, Cornell University	Pa. Pa. Pa. Pa.
Pasamanick, Leonard Daniel Pasbach, Lawrence R. Pascual, Carolina Jimenez A.B. in Ed. 1939, Philippines Women's University	Md. Philippines D.C.	Paxton, James T. B.S. 1940, Oklahoma Agricultural and Mechanical College Paxton, Dorothy Kenniston A.B. 1919, University of Florida	Pa. Pa. Pa.
Pase, James Leonard Pase, Keith, Jr. Pash, Oliver Henry Pasin, Sonia Pasquale, Matthew Richard Passeltiner, Bernard Ivan Paster, Peter John Pasternak, Andrew A.B. 1950, University of Pittsburgh	W.Va. D.C. D.C. Pa. D.C. Mass. Pa.	Paxton, Patricia Iris Payler, Betty Ruth Payne, Clarence Frank, Jr. Payne, Claude Alvin Payne, Francis Miles Payne, George W. Brown Payne, Howard White Payne, Jeanette Lee Payne, Nancy Carolyn Payne, Robert Roscoe A.B. 1941, Shepherd College Payne, Stanley Roscoe Payne, William Darby A.B. 1949, University of Maryland	Pa. Pa. Pa. Pa. Pa. Pa. Pa. Pa. Pa. Pa. Pa.
Pasternak, Stephen Pastura, Misael Patch, Robert John B.S. 1948, University of Michigan Patchan, Michael Patchan, Steve Pate, Fairy Nell Pate, Lou A.B. 1940, Agnes Scott College Pate, Marianne Duncan Patarde, Edmund Thomas B.S. 1947, B.L.E. 1948, Rensselaer Polytechnic Institute Patrick, Francis Henry B.S. 1918, United States Military Academy	W.Va. D.C. D.C. Pa. D.C. Tenn. Va. Va.	Paxton, Joseph Edward B.S. in P.S. 1951, Georgetown University Parsonix, Arnold Pearlman, Clifford John Pearlman, Jack Travis Pearl, Vivian Charlotte Pearce, Donald Bruce A.B. 1950, Brown University Pearce, Donald Joslin Pearce, Franklin Lee	Pa. Pa. Pa. Pa. Pa. Pa. Pa. Pa.
Patrick, Thomas John Patten, James Hardy Patten, Stanley Fletcher, Jr. B.S. 1947, M.S. 1950, The George Washington University	Pa. D.C. D.C.		

# Students Registered

525

Peace, Ira Hersey A.B. 1951, The George Washington University	D.C.	Penrod, Marian Carole Pentecost, Richard Livingston	Pa. Va. Fla.
Pearce, James Donald B.B.A. 1950, University of Miami	D.C.	Peppard, Matthew James A.B. 1951, Harvard University	
Pearson, Henry Costrova Pearson, Bernard Eugene Pearson, Ellsworth Carl Pearson, Gordon William Pearson, Joe Morgan B.S. 1941, Northeastern State College	Md. Ohio Minn. Minn. Md.	Pepper, Hobart Garrett Pepper, Mary Barbara A.B. 1940, The George Washington University	W.Va. Va.
Pearson, John Earl A.M. 1942, University of Wisconsin	Wis.	Pepper, Sylvia Peppers, Richard Langford A.B. in Govt. 1952, The George Washington University	D.C. Ill.
Pearson, Vera Maxine Pearce, Frank Theodore A.B. 1940, William Jewell College		Perce, LeGrand Winfield A.B. 1950, The George Washington University	Pa.
Pearce, Jennie Ponulak Pearce, Patricia Dorothy B.S. 1917, University of Cincinnati	Ill. Va. Va.	Percy, George Leon, Jr. B.S. in F.S. 1951, Georgetown University	Miss
Pearson, Robert Mason A.B. 1951, The George Washington University	N.J. Ohio	Perea, Alfonso Perelli, Virginia C.	Columbia D.C.
Pek, Richard Lee A.B. 1950, Catholic University of America	D.C.	Perenich, Guy Nicholas A.B. 1949, University of Notre Dame	Md.
Pek, Rebecca Koonce A.B. 1951, The George Washington University	D.C.	Perez-Escobar, Ernest B.S. in B.A. 1951, Kent State University	D.C.
Pek, Merl Bicknell A.B. 1935, Nebraska State Teachers College, Peru	D.C.	Perez, Frank Herbert A.B. in Govt. 1949, The George Washington University	D.C.
Pek, Frank West III B.S. 1949, University of Arkansas	Nebr.	Perez, Horace Hugo B.S. 1946, Louisiana State University LL.B. 1951, The George Washington University	D.C.
Pek, Carolyn Rae Pek, Irving Warren A.B. 1950, The George Washington University	Tex.	Perez, Louis Vincent Perkett, Emile Elmer	Md. N.Y.
Pek, Willam Houston Pek, Robert Elizabeth Pek, Arthur Jack Pek, Arthur Douglas Pek, Avila A. Pek, George Arthur Pek, Constance Cecilia Pek, Victor Hugo Pek, Robert James Pek, Vernon Amos A.B. 1941, De Pauw University	D.C. Md. Pa. S.D. D.C. D.C. N.J. D.C. D.C. Minn. Md. Md. Ill.	Perna, Louis Robert A.B. 1949, The George Washington University	W.Va. D.C. D.C.
Pek, Henri Walter A.B. 1947, Amherst College	Pa.	Perriens, Matthew Phillip Perrell, Howard Scott	D.C. Md.
Pek, William Charles Pek, Luciana Pek, Carrie Rebecca A.B. 1944, Westhampton College	D.C. D.C. D.C. Va.	Perros, Theodore Peter B.S. 1946, M.S. 1949, The George Washington University	D.C.
Pek, Paul Lewis Pek, Joseph Patrick Pek, Raymond Elliott Pek, Karl Edward Pek, Andrew Medders, Jr. A.B. 1950, University of Tennessee	N.J. D.C. Md. Ark. W.Va. Md. Va. Kans. Va. Md.	Perrott, Edward Winchit Perrott, Richard William Perrott, Virginia Marie Perruso, Edith Marie Perruso, Pervia Dolores Perruzzi, John Perry, Albert M. Lees A.B. 1942, The Citadel	Iowa D.C. Va. D.C. D.C. Va. Va.
Pek, Oscar Lavert	Minn.	Perry, Beverly A.B. 1951, The George Washington University	D.C.
	Md.	Perry, Elena Victoria A.B. 1945, Hunter College	D.C.
	D.C.	Perry, John Kenneth Perry, Olive Violet	Cole D.C.
	D.C.	Perry, Patricia Larulene Peschnick, Helen Mae	D.C.
	Md.	Peschnick, John Peschau, Elmer Franklin	D.C. Pa.
	Ark.	Peshkin, Sarah Ruth A.B. 1950, The George Washington University	Md. Ill.
	W.Va.	Pest, Louis B.S.S. 1948, College of the City of New York	N.Y.
	Kans.	Peter, Paul F. B.S. 1928, Syracuse University	Va.
	Va.	Peters, Alvin Dancy A.B. 1945, Shepherd College	W.Va.



Peters, Charles William A.B. 1950, Indiana University	D.C.	Pflaging, James Henry Plumtree, Carl Herman A.B. 1948, The George Washington University	D.C. Fla.
Peters, Clarence Oswald A.B. 1949, Marshall College	W.Va.	Phelan, Charles Scott B.S. in E.E. 1949, Pennsylvania State College	Va. W.Va. Va.
Peters, David Randolph Saunders Peters, Dorothy Ellen Peters, Harrietta Sinclair B.S. 1945, Madison College	Va. D.C. Va.	Phelps, Harold Lloyd Pherson, John Randolph A.B. 1948, The George Washington University	W.Va. Va. D.C.
Peters, Virginia Briggs Petersen, Stanley Wilhelm A.B. 1942, The George Washington University	Md. N.Y.	Phillips, Phyllis Jane Phillipson, Bruce Glueck B.C.E. 1948, Catholic University of America	
Peterson, Bert Hays Peterson, Charles Clinton Peterson, Charles David A.B. 1942, Harvard University	Pa. Va. Maine	AM in Govt. 1950, The George Washington University	Va.
Peterson, Charles Raymond Peterson, Darwin L. Peterson, Edgar Francis, Jr. Peterson, Force	Ill. Utah Va. Tex.	Phillips, Betty Ann B.S. 1949, Mary Washington College	Va.
Peterson, George Konstantinos Peterson, Harold Emanuel Peterson, Harvey Wayne Peterson, Howard L., Jr. B.S. 1944, United States Merchant Marine Academy	N.C. Maine Md. Ind.	Phillips, Clinton A. Phillips, Douglas Gray Phillips, Harriet Sylvia Phillips, Jack L. A.B. 1951, Idaho State College	D.C. Va. D.C.
Peterson, Margaret Christina Peterson, Milton Maurice B.S. 1948, Central Michigan College of Education M.S. 1942, University of Michigan	D.C. Va.	Phillips, Joan Marie Phillips, Laura Marley B.S. 1951, The George Washington University	D.C.
Peterson, Nad Alma A.B. 1950, The George Washington University	Utah	Phillips, Lawrence Vince A.B. 1949, The George Washington University	Va.
Peterson, Robert Hilding B.E.E. 1949, University of Minnesota	Minn.	Phillips, Mary Jane B.S. in Ed. 1944, University of Pennsylvania	Va. Fla.
Peterson, Robert Vernon Peto, John B.S. 1947, College of the City of New York	Minn. N.J.	Phillips, Neal Cornelius Phillips, Raymond Alfred A.B. 1951, University of Utah	N.J. Va.
Petrie, Emily Elizabeth Petross, Albert Anthony Petrosska, Josephine Anne Petrucci, Georgia Marie Petra, Louis J. A.B. 1951, Adelphi College	Pa. D.C. Ohio D.C. N.Y.	Phillips, Robert Terry Phillips, Samuel Forrest, Jr. Phillips, John William B.S. in E.E. 1950, University of New Hampshire	Wash. N.H.
Petters, Sofia Pauline A.B. 1948, University of North Carolina	Va.	Phythian, Philip Douglas Piacentello, Harry John Pichardo, Mario Ventura Piekens, George Wilson Piekens, John Kenneth A.B. 1949, LL.M. 1948, The George Washington University	Va. N.Y.
Pettit, Charles Albert Petton, Francis Cornelison A.B. 1948, University of Hawaii A.B. in Govt. 1951, The George Washington University	Md. D.C.	Pickering, Woodrow Harold A.B. 1950, Ohio State University Pickup, Dana Roland B.S. 1946, University of Oklahoma	N.Y.
Petty, Virginia Anne Pewkes, Ray George Peverill, William John Peyton, Levi Earl, Jr. A.B. 1948, East Carolina Teachers College	N.C. D.C. D.C. N.C.	Picrak, Walter Alfred A.B. 1949, Wilkes College	N.C.
Pexton, William Halliday Phabler, Robert Duvall B.S. in M.E. 1948, The George Washington University	Va. Ky.	Pida, Josephine Bevin Pierce, John Rudenok Pierre, Raymond Grant Pietola, Phyllis Helen Pietras, Chester Joseph B.S. in P.E. 1950, The George Washington University	Va. Ky.
Pfeferstein, Melvin G. A.B. 1951, The George Washington University	N.J.	Pietrowski, Chester Alphonse B.S. in F.S. 1949, Georgetown University	N.J.
Pfeifer, Joseph William Pfeiffer, Robert Charles B.S. in M.E. 1951, Purdue University	D.C. Ind.	Pietsch, Audrey Cecilia A.B. 1948, Cornell University	D.C.
Pfeiffer, Shirley Marguerite Piel, Norman Dean Phingstak, C. J. A.M. 1937, University of Michigan	Va. Nebr. Ind.	Pisott, Dorothy B. Pike, Doris Pikallidas, Euripides Demetri Pilch, Joseph John Pilch, Lois Miller	Va. Nebr. Ind.



# Students Registered

527

Pileggi, Joseph A.B. 1951, University of Maryland	D.C. Md.	Plasse, Maurice Benoit A.B. 1949, University of Maryland	D.C.
Pillot, Jose C. B.S. 1950, Texas Christian University	N.Y. Tex.	Platshon, Myra Lee Platt, Frank Leslie	D.C. Iowa
Pilon, Rudolph Joseph Pison, Benjamin Franklin	N.Y. D.C.	Platt, Marvin Stanley B.S. 1951, University of Maryland	Md.
Pizer, Geraldine Fogel Pizman, John Joseph	D.C. D.C.	Platt, Nancy Louise Platt, Ruth Elizabeth	Ill.
Pine, Anita Porro Pinecombe, John William	N.J. N.Y.	Platt, Tina Cleveland Platt, William Templeton	D.C. Md.
Pineas, Arthur A.B. in Govt. 1948, The George Washington University	D.C. Md.	Platz, Bruce William Plawchan, John David	Md. Mich.
Piney, Saul B.S. 1941, College of the City of New York	N.Y.	B.S. 1943, United States Naval Academy B.C.E., M.C.E. 1948, Rensselaer Polytechnic Institute	Miss.
Pincus, William A.B. 1941, Brooklyn College	N.Y.	Pleasant, Enos Rogers B.B.A. 1946, Tulane University	
Pindell, William Hamilton Pine, Donald Kay	D.C. Va.	L.L.B. 1948, Washington and Lee University Pleasant, John Franklin	Va. Va.
Pineau, Roger A.B. 1942, University of Michigan	Md.	Pletcher, Ralph Weldon B.S. 1948, University of Maryland	Pa. Fla.
Pinto, Mattie Anna Pinson, Jack Andrew	D.C. Md.	Pliska, Leonard Peter Plotkin, Leonard	D.C.
Pinson, Richard Collins B.S. in Ch.E. 1948, Northeastern University	Va. Md.	Plotkin, Norman B.S. 1948, University of California at Los Angeles	
Pirkard, Jane Ann Pirkham, Richard Collins	Kans.	B.S. in F.S. 1950, Georgetown University Plouffe, Claire Lucille	D.C. D.C.
Pirk, Robert R. B.M. 1936, Southwestern College	D.C.	Plumbe, Frederick William IV Plumb, Francis Waring	Ga. D.C.
Pino, Edward Charles A.B. 1950, Michigan State College	Ga. Va.	Plumb, Robert Johnston, Jr. A.B. 1949, A.M. 1950, University of North Carolina	D.C.
Pinson, Jane Piper, Glenn C.	D.C. Ga.	Plumb, Rosemary Dengler A.B. 1944, University of Rochester	
Pir, William A.M. in Ed. 1951, The George Washington University	D.C. D.C.	A.M. in Govt. 1948, The George Washington University Plummer, Harry Chester	D.C.
Pir, Stacey Vincent Pirakos, John Joseph	D.C. Md.	A.B. 1948, Ohio University Plumpton, Vincent William	D.C.
Pir, M.F. 1951, Purdue University Pir, Joseph Vincent	D.C. Va.	Plyer, Betty Lou, nee Robinson A.B. 1951, The George Washington University	Fla. Md.
Pir, Leslie Lee, Jr. A.M. in Govt. 1950, The George Washington University	D.C. Va.	Plyer, Charles Herbert, Jr. Plyler, Cranford Oliver, Jr.	Pa. W.Va.
Pir, William A.B. 1948, Roanoke College	Va. N.Y.	B.S. 1948, Pennsylvania State College Plymyer, Ray Earl	Wash.
Pir, Olive Elaine A.B. 1949, West Virginia University	N.Y. Fla.	Poach, Jack Pat B.S. 1949, Theological Seminary	Md.
Pir, Alton Rudolph Pirman, Henry Byron	Fla. Fla.	Poach, Martin Carl A.B. B.D. 1950, Concordia	Pa.
Pirman, James Neal Pirman, Joan	S.C. Ohio	Pold, John Francis B.S. 1943, University of Illinois	
Pir, Delores Collyn Pir, Julia Samuel	D.C. D.C.	Podell, Jerome Edward A.B. 1949, A.M. 1951, University of Pennsylvania	D.C.
Pir, The George Washington University Pir, Robert Simon	Ga. N.H.	Podolski, Gerald Anthony Poe, Walter Clayton	D.C. Md.
Pir, Samuel A.B. 1945, The George Washington University		Poff, Sylvester Eugene Pogue, Nell Jones	D.C. Md.
Pir, Valere Meredith Pir, Norman Anthony		B.S. 1956, Western Kentucky State Teachers College A.M. 1957, George Peabody College for Teachers	
Pir, University of New Hampshire		Pohlmann, May Lucille A.B. 1944, Augustana College	D.C.
		Poland, John Lay Polasechik, Stephen	Va. Pa.

Poletti, Peter John B.S. 1930, Massachusetts Institute of Technology	N.Y.	Porter, Ros George	
Pohs, Mary Phyllis	D.C.	Porter, Than Robinson	
Pollack, Solomon Leonard B.S. 1915, College of the City of New York	Md.	Porterfield, Alice Antoinette	
Pollak, Barth B.S. 1930, M.S. 1931, Illinois Institute of Technology	Ill.	Porterfield, Marguerite	
Pollard, James David	D.C.	Porterfield, Robert James	
Pollard, John Ray	Del.	Porterfield, Robert James II	
Potliva, Eugene H. B.S. in C.E. 1935, Tri State College	Ga.	Porton, Fredric Carl	
Pollin, Albert	D.C.	Portwine, Ralph Samuel	
Pollock, Clarence Foster, Jr. B.S. 1926, United States Naval Academy	D.C.	Posey, Broodie Richard B.S. 1927, University of Oklahoma	
Pollock, Vivian Levy	N.Y.	Posin, Benjamin William	
Pomeranz, Jerome Raphael	N.J.	Posnansky, Rosale Lucille	
Pommer, Robert William B.S. 1930, United States Merchant Marine Academy	Md.	Post, Beverly Suzanne	
Poma, Jack	D.C.	Post, Priscilla Ann Ed.B. 1946, Keene Teachers College	
Pond, Hartley Linwood B.S. 1942, University of Michigan M.S. 1948, The George Washington University	Maine	Postal, Evelyn Michael	
Pond, Viola Estelle	Mass.	Posten, Carol Ann A.B. 1930, Rollins College	
Pond, William Judson A.B. 1927, The George Washington University	Va.	Poston, Met Ray B.S. 1943, University of Chattanooga	
Ponow, Dell Arthur	Ill.	Poteat, Orpha Naomi	
Ponzuric, Mildred Elaine	Pa.	Poteet, Jean Hampton A.B. 1931, Lynchburg College	
Pool, James Patrick	D.C.	Potenza, George Walter B.S. in E.E. 1931, Illinois Institute of Technology	
Poole, E. Jacques	Va.	Potler, Seymour Albert	
Poole, Jacqueline A.B. 1944, Mary Baldwin College	D.C.	Potter, Donald Brandreth A.B. 1947, Williams College	
Poole, Robert Smallwood A.B. 1930, The George Washington University	D.C.	Potter, Margaret Jane M.S. 1949, Brown University	
Pooley, Douglas Arthur	Va.	Potter, Philip Nelson	
Poure, Genevieve Ann B.S. 1931, University of Maryland	Md.	Potter, Stanley Eugene	
Pooser, Roberta Kathleen	Ga.	Potter, Thomas Kelly, Jr. B.S. in Ed. 1949, Eastern Illinois State Teachers College	
Pope, Fannie Fairchild	Md.	Potts, Dale Everett B.S. in Ed. 1949, Eastern Illinois State Teachers College	
Pope, James Sterling	Md.	Potts, Edward Andrew A.B. 1949, University of Michigan	
Pope, Patricia Evelyn B.S. in P.E. 1940, The George Washington University	D.C.	Potts, Edwin Hammond A.B. 1931, University of Mississippi A.M. 1939, Colorado State College of Education	
Popham, James Edward A.B. 1930, The George Washington University	D.C.	Pouch, Loren Boyd	
Popish, Mae Ernestine	D.C.	Powell, Alice Windsor A.B. 1939, University of North Carolina	
Poppe, William Lawrence	D.C.	Powell, Charles Lee	
Popper, Robert David	N.Y.	Powell, Ellen Ann	
Porro, Ralph Anthony, Jr. A.B. 1930, The George Washington University	D.C.	Powell, John Frederic, Jr.	
Porro, Robert Michael M.E. 1938, Rensselaer Polytechnic Institute	Mass.	Powell, John Theodore A.B. 1933, University of Washington	
Port, Bennett Edward A.B. 1940, Syracuse University	D.C.	Powell, Kathryn Delinda	
Porter, Bennie Jay	Md.	Powell, Morrison, Jr.	
Porter, David Oscar	Okla.	Powell, Sally Lou A.B. 1932, Georgia State College for Women	
Porter, Esther Fletcher	Ark.	Powers, Carolyn Isabelle	
Porter, Ethel Kesel	D.C.	Powers, Helen Kathryn	
Porter, Harold Stuart A.B. 1938, A.M. 1939, University of Southern California	D.C.	Powers, Irene I.	
		Powers, John Thomas B.S. in F.S. 1949, Georgetown University	
		Powers, Lester Alvis	
		Powers, Madeline Rischter A.B. 1939, Capital University	
		Powers, William L. A.B. 1920, Princeton University	
		Pozner, George Sam	
		Pozniak, Edward Peter B.S. 1930, University of Missouri	



# Students Registered

529

Prach, John Stanley	N.Y.	Price, Walter Withrow, Jr.	Mo.
Prank, Carl Walter	Va.	Price, Zabeth Miller	Md.
Prater, Lowell Andrew	D.C.	Prigal, Arnold	Md.
B.S. 1947, West Virginia Institute of Technology		B.S. 1950, University of Maryland	Va.
Pratt, Ed M., 1948, University of Maryland	Va.	Prince, Jack Kimball	
Pratt, Alan Rogers	D.C.	A.B. 1940, University of California at Los Angeles	
Pratt, Betty J.	Ill.	Pringle, Dorothy Smallwood	Pa.
Pratt, Curtis Robert		A.B. 1930, Goucher College	
A.B. 1951, The George Washington University		A.M. 1949, The George Washington University	
Pratt, Ray Chase, Jr.	D.C.	Prisch, Robert Mark	D.C.
Pratt, William Leonidas	Va.	Pritchard, Robert Linton	Va.
Frehn, Elnor Patton	Md.	Probst, Richard Harvey	Md.
A.B. 1946, Cornell University		Proctor, Arthur Edwin	Iowa
Frehn, Richmond Talbot	Md.	Proctor, Carolyn J.	N.Y.
M.D. 1947, Long Island College of Medicine		A.B. 1940, Smith College	D.C.
Prendergast, James Francis	Pa.	Proctor, Patricia Lee	Md.
A.B. 1938, Lafayette College		Proctor, Thomas	
Prentzel, Harold Thompson, Jr.	Pa.	Projector, Dorothy S.	
B.B.A. 1940, University of Miami	Va.	A.B. 1943, Southwestern University	
Pfeiler, Robert Delos	N.Y.	A.M. 1941, The George Washington University	
A.B. Imogene Grace	Va.	Prong, Richard J.	N.Y.
A.M. 1951, University of Minnesota		Protonotarios, Stylianos Demetrios	Greece
Pfeiman, Joyce Ann	D.C.	B.S. 1951, Wagner Memorial Lutheran College	
Pfeison, Homer Kent	Tex.	A.M. 1951, The George Washington University	
A.B. 1939, Texas Technological College		Proudley, George Erwin, Jr.	D.C.
LL.B. 1949, Georgetown University		B.S. 1948, University of Maryland	
Preston, Henrietta Louise	Md.	Pruden, John Stephen	Ohio
Preston, Lenais Todd	Md.	Pruitt, Lincoln Darrell	Kans.
Preston, Martha Claudia	D.C.	B.S. 1950, Kansas State Teachers College, Pittsburg	
A.B. in Govt. 1950, The George Washington University	Md.	Pruner, Charles B., Jr.	Okla.
Price, Lucy Theresa	D.C.	Pruner, R. Chanda Marie	D.C.
Prunget, Raymond	France	Pruser, Stanley	Md.
Preveden, Irene Dolores	D.C.	A.B. 1950, Drake University	N.Y.
B.S. 1951, Georgetown University	Va.	Prussing, Marjorie Maughlin	D.C.
Price, Francis Joseph	D.C.	Pryor, William Lee, Jr.	Va.
Price, Archie Boyce	D.C.	B.S. 1926, United States Naval Academy	
Price, Charles Willard		M.S. 1936, Harvard University	
B.S. in B.A. 1951, Drexel Institute of Technology		Psaltis, Edmund Gregory	Va.
Price, Charles William	Md.	Psaltis, Margaret Mary	D.C.
Price, Curtis Lee	Calif.	Psathas, Dorothy	Conn.
Price, Edward James	N.Y.	A.B. 1948, Connecticut College	
Price, Edwin	N.Y.	Pucher, Katharine Lloyd	D.C.
Price, Elia Louise	N.Y.	Pucillo, Paul Joseph	D.C.
Price, George Bradley	Va.	A.B. 1951, The George Washington University	
Price, Helen Vera	Md.	Puckett, Betty Kristene	D.C.
A.B. in Ed. 1951, The George Washington University		Puett, William Nelson	N.C.
Price, Hoyt Glenn	Va.	Pugh, John Edward	Va.
Price, James Howard	D.C.	Pugh, Lillian Elizabeth	Md.
B.S. in C.E. 1942, University of Michigan		Pulford, Samuel Reed	N.Y.
Price, John Travis	Tenn.	Pulfrey, Robert Earl	Va.
Price, John Davis	Tenn.	B.S. 1951, Jamestown College	
B.S. 1942, United States Naval Academy		Pully, Lucille	Va.
Price, John Edward		Pulvari, Charles Ferencz	D.C.
B.S. 1942, Texas Western College	N.M.	Pulver, Bernardo	D.C.
Price, Ralph Louis	Va.	Pulzar, Pedro Campos	Chile
Price, Robert Nelson	D.C.	Pundeff, Marin V.	Md.
A.B. 1946, Haverford College		A.B. 1949, University of South Carolina	
Price, Roger Carlton	D.C.	Punga, Valdemars	D.C.
Price, Roy Warren	D.C.	Purdy, David Carl	D.C.
Price, Ruth Hitchcock	Conn.	B.S. 1950, Webb Institute of Technology	
Price, Thomas Humphrey	D.C.	Purdy, Ramon Tison	D.C.
		Purifoy, Christine Ethel	Ark.



Purnell, Lewis Roy B.S. 1946, Pennsylvania State Teachers College, Kutztown	Pa.	Qureshi, Bushra A.B. 1949, A.M. 1951, Islamic College, Pakistan	
Purnhagen, Harry Richard	Md.	R	
Purvis, Curtis Carlisle	D.C.		
Puryear, Polly Ann	Ky.	Raab, April May A.B. 1949, University of Buffalo	
Putnam, Frankie Ray	Okla.	Rabache, Claude Michel	
Putnam, Guy Hamilton, Jr.	Md.	Raber, Samuel B.S. in E.E. 1950, Union College	
Putnam, Harriet Russell A.B. 1945, Smith College	Ky.	Rabin, Joseph Edward	
Putzki, Ann Stirling A.B. 1951, Smith College	D.C.	Rabinovich, Jacob A.B. 1944, College of the City of New York	
Pyle, Anita Louise Pyle, Lelan Alonzo Pyle, Paul W., Jr. A.B. 1941, West Virginia Wesleyan College	Va. Va. Va. W Va.	Rabinowitz, Orlie Esther Rabner, John A.B. 1950, American University	
Pyles, Carol Lee Pyles, Dorothy Anne	D.C.	Racca, Carmine William Rachlis, Irving Melvin B.S. 1951, West Liberty State College	
Q			
Quackenbush, Elizabeth Ann	Pa.	Rackow, Paul B.S. 1950, College of the City of New York	
Quackenbush, Robert Allen	D.C.	Rackowski, Chester John A.B. 1948, Syracuse University	
Quaglia, Carl Anthony	N.J.	Rackowski, Marcelle Gloria	
Quan, Alice Lee B.S. 1944, American University M.S. 1946, University of Maryland	Fla.	Raden, Henry Rader, Stephanie Czech A.B. 1947, Cornell University	
Quant, David Worthington A.B. 1949, Colgate University	Va.	Radford, Rebecca Ord, Jr.	
Quantrell, Richard Edward Quarforth, Carl Donald B.Ch.E. 1946, University of Virginia	D.C. S.D.	Radin, Estelle A.B. 1950, University of California at Los Angeles	
Quast, Walter Frederick Queen, Henry Anderson A.B. 1941, LL.B. 1937, Georgetown University	Md. D.C.	Radko, Joseph A.B. 1950, Wilkes College	
Queen, Judy Alice A.B. 1950, The George Washington University	D.C.	Radomski, James Alexander Radon, Thomas Stephen Radwan, Joe A., Jr.	
Queisser, Richard Curtis B.S. in E.E. 1947, New York University	Va.	Rael, Frank Joseph Rafferty, Raymond Benedict Raffner, Martin A.B. 1948, New York University	
Quenstedt, Warren Daley A.B. 1951, The George Washington University	Va.	Rafter, Agda Josephine A.B. 1941, M.S. 1938, Indiana University	
Quick, Alice McCordell B.S. 1942, Johns Hopkins University	Md.	Rageot, Roger Henry Raisdale, Gerald Hamilton A.B. 1948, Montana State University	
Quick, Robert Thomas Quigley, Lillian Fox	Md. D.C.	Rabourn, Charles Nathaniel Raimondi, Anthony John Raimond, Ullis Hubert Ramey, Mary R. Phillips Ramey, Samuel Charles B.S. 1946, Virginia Polytechnic Institute	
Quill, John Joseph A.B. 1951, Ohio Wesleyan University	Conn.	Rainsbury, Robert Charles A.B. 1951, The George Washington University	
Quimper, William Nelson Quinn, Robert John B.B.A. 1947, University of Minnesota	D.C. Minn.	Rajala, William Bernhardt Rajan, Mary Chayko A.B. 1942, B.T. 1947, University of Madras	
Quinn, Ruth E. Quinley, Hattie Gilley B.S. 1942, Radford College	Mass. Va. Mass.	Rajaparama, Doo, Simpala Rajaparama, Padma A.M. 1950, Howard University	
Quinisk, Virginia Margaret Quinn, Brent Murdock Quinn, Eugenia Quinn, Harry A. B.F.S. 1951, University of Southern California	D.C. Maine Calif.	Rake, Ted Alan Rakha, Youssef Bahgat A.B. 1951, The George Washington University	
Quinn, James Leland III Quinn, Nancy Proctor Quinn, Teresa Marie Quinn, James Patrick B.B.A. 1948, A.M. 1949, University of Minnesota	N.C. Md. D.C. Minn.	Raley, Anna Loretta Ralph, Donald Barnes A.B. 1940, Duke University	
Quisenberry, John Ascum A.B. 1948, Harvard College	Pa.		

# Students Registered

531

Ralston, Donald McKenzie B.S. 1937, University of Michigan	Calif.	Rasmussen, Frank Joseph B.S. in M.E. 1939, University of Illinois	Md.
Ramos, Lena	Va.	Ratapick, Ann Elizabeth A.B. 1950, Alabama State Teachers College, Florence	Ala.
Ramirez, John Wyatt	D.C.	Ratchford, Jean McNeil A.B. 1949, University of Texas	Ala.
Ramirez, Jose Angel	Tex.	Ratchford, William C., Jr. B.S. in F.S. 1950, Georgetown University	Ala.
Ramos, Alfredo	D.C.	Ratchiffe, Louis Johnson	D.C.
Ramos, Guillermo Uriarte A.B. 1951, University of Mexico	Mexico	Rathbone, J. D. Thomas	Md.
Ramos, James Mariano	Puerto Rico	Rathbone, H. Collin	D.C.
Ramos-Lopez, Palmira B.S. 1950, University of Puerto Rico	Puerto Rico	Rathbone, Walter C. LL.B. 1915, Georgetown University	N.M.
Ramsey, John Robert	Md.	Rathgeber, Kay	D.C.
Ramsey, Edythe Ellen	Pa.	Ratowsky, Max	D.C.
Rand, Louise Elaine	Md.	Raudenbush, Martha Frances	Pa.
Rand, Alice Mae	D.C.	Ray, Joseph D. B.C.S. 1950, New York University	D.C.
Randall, Frederick Crawford A.B. 1948, University of Omaha	Md.	Ray, Joseph Edwin, Jr. A.B. 1950, The George Washington University	D.C.
Randall, Robert Henry, Jr. B.C.E. 1941, The George Washington University	D.C.	Rawnsley, George William Ray, Donald Page	Mass. Colo.
Randall, Ruth Hochheimer A.B. 1951, Swarthmore College	N.Y.	Ray, Donald Page A.B. 1941, University of Colorado	
Randall, William Vincent	N.Y.	Ray, Donald Page A.M. 1947, The George Washington University	
Randall, Eleanor Fuller	N.Y.	Ray, Hardy Murfree, Jr. Ray, Herbert Bond	Va. Ill.
Randall, Ann H.	D.C.	Ray, Herbert Bond A.B. 1950, M.C.S. 1951, Dartmouth College	
Randolph, Edward Dale Appleton B.S. 1945, University of Tennessee	Va.	Rayack, Jean Radlauer	D.C.
Randolph, John Lewis A.B. 1941, The George Washington University	Va.	Rayburn, Bettie I.	Mass.
Randolph, Srelia A.B. 1942, AM 1921, The George Washington University	Ill.	Ray, Leonard Louis	I.C.
Raney, Nellie Denson	Ind.	Raymond, Barbara June	Mass.
Rangel, Victor Hiram	D.C.	Raymond, Earl Alfred	Va.
Ranney, Louis Mayda	Conn.	Re, Anthony John A.B. in Govt. 1951, The George Washington University	N.J.
Ranney, Joseph Jeffrey A.B. 1948, University of Pittsburgh	Va.	Reagan, Daniel Francis, Jr. A.B. in Govt. 1941, The George Washington University	D.C.
Ranney, Leonard Carroll	D.C.	Reagan, Thelma Jean	D.C.
Ranney, Mildred	Pa.	Reams, Paul Armand B.S. 1950, Indiana University	Va.
Ranney, Elma Wayne	Conn.	Reardon, Barbara Ellen A.B. 1948, University of Washington	Wash.
Ranney, Anthony Arthur B.S. 1950, Syracuse University	Mass.	Reardon, Daniel Joseph B.S. 1947, College of the Holy Cross	N.Y.
Ranney, Norman Leslie A.B. 1950, Bowdoin College	Pa.	Reardon, Daniel Joseph B.S. 1951, New York State College for Teachers, Albany	
Rapp, Charles Henry A.B. 1948, The George Washington University	D.C.	Reardon, James Gavin A.B. 1950, College of the Holy Cross	Mass.
Rapp, Eleanor Elizabeth A.B. 1948, University of California	Mo.	Reaves, John Harold B.S. in I.L.P. 1943, West Virginia University	D.C.
Rapp, Paul Herbert A.B. 1948, University of California	D.C.	Reaves, William Hiram	Ala.
Rapp, Raymond Edward, Jr. B.S. 1948, The George Washington University	D.C.	Rebeck, William LL.B. 1951, The George Washington University	D.C.
Rapp, John Deane A.B. 1945, University of North Carolina	Ill.	Rechia, Victor Lawrence A.B. 1951, University of Pennsylvania	N.Y.
Rapp, Michael Brandies A.B. 1952, University of Alabama	D.C.	Recktenwald, Constant E. A.B. 1948, University of Pittsburgh	Va.
Rapp, Fredrick William B.S. 1949, Lehigh University	D.C.	Recktenwald, William Elmer B.S. in M.E. 1948, Purdue University	Va.
Rapp, Ronald Charles A.B. 1951, Whitman College	Pa.	Rector, Eileen Shuflet B.S. 1948, Wilson Teachers College	D.C.
	Wash.	Redden, Virginia Nancy	Pa.
		Redenius, Josephine Louisa	N.J.



Redfearn, William Clayborne, Jr.	Va.	Reinli, James Edward	Tenn.
Reding, Willis Bugar	Md.	A.B. 1931, Texas Christian University	Pa.
Redler, Welfred Morton	Md.	Reinschissel, Alice Mildred	Md.
Redmond, John Peter	Md.	A.B. 1946, Wilson College	D.C.
B.Ch.E. 1950, Catholic University of America	N.C.	Reintzel, Malcolm Francis	D.C.
Redmond, Lawrence Paul	Ark.	Reiser, Donald	D.C.
Reed, Ancil Mason	Tex.	B.E.E. 1950, Cooper Union	Cal.
A.B. 1951, Hendrix College	Va.	Reiser, Hillard N.	
Reed, Betty Moses	Va.	B.S. 1949, College of the City of New York	
A.B. 1941, Stanford University	Va.	Reising, Paul Joseph	D.C.
Reed, Edgar Alva	Va.	B.S. 1947, Xavier University	Pa.
Reed, G. Robert	Va.	M.S. 1949, University of Detroit	Pa.
A.B. 1950, Lafayette College	Va.	Reiskin, Janice Irene	Pa.
Reed, Hallie Mae	Md.	Reisig, George William	D.C.
A.B. in Ed. 1917, The George Washington University	D.C.	Reitor, Nora	
Reed, Herbert Jackson	D.C.	Reith, John Langan	D.C.
Reed, John Howard	D.C.	A.B. 1947, University of Wisconsin	
Reed, Linton McKinley	D.C.	Reitler, Henry L.	Md.
Reed, Margaret Murchison	Mass.	A.B. 1942, LL.B. 1944, Vanderbilt University	Md.
Reed, Martha Smith	D.C.	Reitman, Morton	N.J.
A.B. 1948, Mount Holyoke College	Md.	A.B. 1941, Transylvania College	
Reed, Shirley Patricia	D.C.	M.S. 1950, University of Kentucky	D.C.
Reed, Talmadge DeWitt	D.C.	Reitman, Robert Stephen	D.C.
Reed, William Thomas	D.C.	B.S. 1941, The George Washington University	Mass.
Reeder, Mildred Moe	Miss.	Reiver, Lillian	Mass.
A.B. 1947, Central Washington College of Education	D.C.	B.S. 1941, Wilson Teachers College	Md.
Rees, Bynum Fay	Miss.	Reller, Othmar Joseph	D.C.
LL.B. 1940, The George Washington University	D.C.	Remer, Bertram Robert	Va.
Reese, James Conniff	Md.	B.S. in E.E. 1946, Duke University	Pa.
Reese, Keller Jacob	D.C.	Remers, Janice	
Reeside, Gloria Bolling	D.C.	Remsburg, John Everett	Pa.
Reeves, Alvin Clyde	Ala.	B.S. 1919, University of Virginia	Pa.
Reeves, James W.	Mass.	Renberg, Bertil	Pa.
B.S. 1950, Alabama Polytechnic Institute	Conn.	A.B. in Govt. 1948, The George Washington University	
Regan, John Vincent	Md.	Washington University	
B.S. in E.E. 1950, Tufts College	Md.	Rendish, Bernadette Rita	N.H.
Rekelson, Naomi Ruth	N.J.	Renfro, Julian Carroll	Md.
Rekes, John Timothy	D.C.	B.S. in Ae.E. 1949, University of Michigan	Pa.
Reggia, Frank	D.C.	Renick, Rose Arnos	Pa.
Reisder, Robert	Ohio	Renk, Richard John	Pa.
Reh, Emma	D.C.	B.S. in C.E. 1950, Iowa State College	
A.B. 1917, The George Washington University	D.C.	Reno, Raymond Howard	Va.
Reich, Joan	Ohio	A.B. 1950, A.M. 1951, The George Washington University	Pa.
Reichert, Earl Theodore	D.C.	Washingon University	Pa.
B.S. in Ed. 1940, Ohio State University	Md.	Renz, Henry Augustus III	Pa.
Reichow, Estelle Vernon	D.C.	Reise, Robert Russell	Pa.
Reid, Alexander Blann	Va.	Reiser, Rose Bertha	Pa.
A.B. 1950, The George Washington University	D.C.	Resnick, Leroy David	Pa.
Reid, Ann Madison	Pa.	B.S. 1941, Wilson Teachers College	Pa.
Reid, Joseph Bernard	Ga.	Resnick, Samuel	Pa.
A.B. in Ed. 1950, The George Washington University	Calif.	B.S. 1951, The George Washington University	Pa.
Reid, Joseph Bernard	Oreg.	Reyes, Manuel Villalor	Pa.
Reidy, John Cornelius, Jr.	D.C.	LL.B. 1950, University of the Philippines	Pa.
Reilly, Frank Wendell	Va.	Reymet, Anna Rachael	Pa.
A.B. 1951, University of California	Va.	Reynard, Alan Mark	Pa.
Reilly, Martin Lawrence	Va.	Reynolds, Cedric Okell	Pa.
B.S. 1951, Oregon State College	Va.	A.M. 1942, West Virginia University	Pa.
Reilly, Walter James	D.C.	Reynolds, Florie H.	Pa.
Reinbold, Franklin Welman	Va.	Reynolds, Geraldine M.	Pa.
B.S. 1951, Temple University	D.C.	A.B. 1947, University of California	Pa.
Reinold, Eva	D.C.	Los Angeles	Pa.
Reinke, Robert Lee	Va.	Reynolds, James Edwin	Pa.
Reinking, Carl Louis		Reynolds, Patricia Amelia	Pa.
		Rhane, Richard Coleman	Pa.
		A.B. 1950, Princeton University	Pa.
		Rhinehart, Edwin Almon	Pa.



# Students Registered

533

Rhodes, Eric Foster A.B. in Ed. 1950, The George Washington University		Richey, Marjorie L. Pearce Richmond, Alfred Wright Richmond, Edward Leon B.S. 1948, A.M. 1949, Boston College	D.C. Md. Mass. Md.
Rhodes, George Presley	D.C.	Richmond, Joseph Howard B.S. 1949, University of Maryland	Md.
Rhodes, James Joseph	D.C.	Richmond, Roy George	Va.
Rhodes, Mary Robinson	Md.	Ricketts, Noble George B.S. 1920, United States Coast Guard Academy	D.C.
Rhodes, Robert Donald	Mo.	A.B. 1950, The George Washington University	
Rhodes, Robert Winters	Mo.	Riddle, Samuel Lewis	D.C.
Rhodes, Shirley Hunter	D.C.	Riddles, Alvin Joseph B.F.E. 1949, Catholic University of America	Pa.
Rice, Charles Hunter	D.C.	Riden, Anna Mary S. A.B. 1948, Mount Holyoke College	Pa.
Rice, Donald Fenton, Jr.	D.C.	Rideout, Nancy Aiken A.B. 1949, Shepherd College	Va.
Rice, Geraldine G.	D.C.	Rider, Jean Graham A.B. 1949, Shepherd College	W.Va.
Rice, John Francis B.A.E. 1949, University of Detroit	Ill.	Ridgeway, James Ellsworth A.B. 1946, The George Washington University	Md.
Rice, John Lalor	D.C.	Ridgeway, Jesse Edward A.B. 1946, The George Washington University	Md.
Rice, Patricia Shannon	Vt.	Ridgeway, Paul Wilson A.B. 1944, Shepherd College A.M. 1949, West Virginia University	W.Va.
Rice, Peter Paul B.S. 1948, Pennsylvania State Teachers College, Mansfield	Va.	Ridward, Lorna Ann	N.J.
Rice, Ramon Lee	D.C.	Riecken, Richard Charles	Ohio
Rich, Donald Jenkins	Md.	Rielly, Thomas Hooper	Pa.
Rich, Elmer Denton	Md.	Rierner, Peter Paul A.B. 1950, Yale University M.P.A. 1951, Syracuse University	Conn.
Rich, George Watson	Va.	Riesenger, Francis James	N.Y.
Rich, Harold Watterson	Ill.	Rigg, Donald Cecil A.B. 1946, Yale University	Nebr.
Rich, Peter Michael	N.Y.	Riggs, Bradner Charles	Va.
Rich, Richard Budge A.B. 1952, University of California at Los Angeles	D.C.	Riggs, Edwin Eugene, Jr. A.B. in Govt. 1951, The George Washington University	D.C.
Richard, Dorothy Elizabeth A.B. 1950, Wellesley College	Md.	Rigoli, William Luigi A.B. 1947, University of Maryland LL.B. 1950, Georgetown University	Md.
Richard, Evalyn Glance Ph.D. 1949, Georgetown University	Mass.	Riker, Robert Peter B.S. 1951, Villanova College	N.J.
Richards, Burton Glance	Md.	Riley, Catherine Marie A.B. 1949, University of Pennsylvania	D.C.
Richards, Donald Morgan	Va.	Riley, Helen Irene	D.C.
Richards, Fred John	Va.	Riley, Hugh Allen	Va.
Richards, Frederick William	S.C.	Riley, James Francis	D.C.
Richards, Louis Compton	N.Y.	Riley, Paul Vincent B.Ch.E. 1950, Catholic University of America	D.C.
Richards, Lynn Adelbert	Ky.	Riley, Vernon Todd	Md.
Richards, Nancy Kennedy	Va.	Rinehart, Albert Walton B.E. 1949, Catholic University of America	Md.
Richards, Suzanne Virginia A.B. 1948, The George Washington University	N.H.	Ring, Carl Ewald B.S. 1950, Madison College	Va.
Richards, Therman Lee	Mass.	Ring, Donald Francis	N.Y.
Richards, William Robert	Va.	Ring, Paul Donald	N.C.
Richardson, Bookie Boy	England	Ringland, Deborah Susan	Md.
Richardson, Charles Grant	Fla.	Rinn, Charles Richard	D.C.
Richardson, Charlotte Lorraine	D.C.	Rinn, Otto Michael	Colo.
Richardson, Donald Howard	Mo.	Rios, Yonah	D.C.
Richardson, Eleanor	D.C.	Rios-Lazo, Miguel Juan A.B. 1951, The George Washington University	Puerto Rico
Richardson, George Lee	D.C.	Rischetti, Edmund B.S. 1950, Georgetown University	Mass.
Richardson, Henri Adrien	Ohio	Rison, John Louis	Va.
Richardson, Howard Robertson	Iowa		
Richardson, Mary A.M. 1952, College of William and Mary	Va.		
Richardson, James Augustine	D.C.		
Richardson, James Francis, Jr. B.S. 1949, University of Scranton	Pa.		
Richardson, Laverne Helen	Calif.		
Richardson, Marjorie Lillian B.S. 1947, Florida State University	Fla.		
Richardson, Robert Owen B.S. 1946, Drury College	Mo.		
Richardson, Schuyler Harris B.S. 1947, Alabama Polytechnic Institute	Ala.		
Richter, William Albert	D.C.		
Ribey, LeRoy Milburn, Jr.	D.C.		

Risen, Paul Sydnor B.S. 1951, Illinois State Normal University	Ill.	Roberts, Henry, Jr. B.S. 1950, The George Washington University	N.J.
Riskin, Aaron	D.C.	Roberts, Howard Richard	N.Y.
Rispoli, Elizabeth Ann	D.C.	Roberts, Irene Rita	Me.
Risler, Robert Lorain A.B. 1947, Shepherd College	W.Va.	Roberts, James Franklin	Ind.
Ritchie, Fred Monks B.M.E. 1949, The George Washington University	Md.	Roberts, John Raymond	D.C.
Ritchie, Wilbur Vernon	Va.	Roberts, June Burcham A.B. 1934, Pennsylvania State College	Pa.
Rittenhouse, Junior LeRoy B.S. in E.E. 1949, Pennsylvania State College	Pa.	M.L. 1938, University of Pittsburgh	Me.
Ritter, Mamie Jane A.B. in Ed. 1942, Central State College	D.C.	Roberts, Lincoln Edwin	Va.
Ritterbach, Irvin John A.B. 1950, University of Maryland	Md.	Roberts, Louis Ross	Ala.
Rittmann, Dean Vincent	Tex.	Roberts, Mary Kendall	Va.
Ritzberger, Madeleine Snowden B.S. in P.E. 1949, University of North Carolina	D.C.	Roberts, Mary Martha A.B. 1950, The George Washington University	Va.
Rivera, Andres A.B. in Govt. 1950, The George Washington University	Puerto Rico	Roberts, Nelson Elbert	Ind.
Rivera, Fernando Jose	Puerto Rico	Roberts, Richard Campbell	Pa.
Rixse, Spencer Benjamin	Va.	Roberts, Richard Edwin	Pa.
Rozik, Renee Sonia	D.C.	Roberts, Sherman Harry B.S. 1951, Illinois Institute of Technology	Ill.
Roa, Paul Antonio	D.C.	Roberts, Thomas Arthur	D.C.
Rosch, Lennie Lee, Jr. B.S. 1948, Concord College	Va.	Robertson, Angela B.S. 1924, University of Washington	Va.
Rosmer, James Mahan, Jr. B.C.E. 1949, The George Washington University	D.C.	Robertson, Blanche Gardner A.B. 1925, Guilford College	Pa.
Roane, Melvin Chester	Md.	Robertson, Charles Alfred	Pa.
Roark, Mary Kathleen	Ky.	Robertson, David Justin	Pa.
Rorff, William Rudolph	D.C.	Robertson, Floyd LaVerne A.B. in Ed. 1948, Arizona State Teachers College	Pa.
Robb, James Lawrence	Va.	A.B. in Govt. 1951, The George Washington University	Pa.
Robb, James Richard	Calif.	Robertson, James Davis	Pa.
Robbin, Joseph Summud A.B. 1951, A.M. 1951, The George Washington University	D.C.	Robertson, Kenneth Dean B.S. 1951, Indiana University	Pa.
Robbins, Carl Richard A.M. 1952, University of Missouri	Maine	Robertson, Malcolm Hinson A.B. 1948, University of Minnesota	Pa.
Robbins, David B.L.E. 1950, College of the City of New York	N.Y.	A.M. 1951, The George Washington University	Pa.
Robbins, Frank Edward, Jr. B.C.E. 1944, Rensselaer Polytechnic Institute	D.C.	Robertson, Margaret	Pa.
Robbins, Jerome Morton	Va.	Robertson, Marian P.	Pa.
Robbins, Thelma Shapiro	Va.	Robertson, Patricia Lavell	Pa.
Robbins, Walter Lewis A.B. 1948, The George Washington University	Md.	Robertson, Richard Dean B.S. 1941, Syracuse University	Pa.
Robel, Mary Ellen	Md.	Robertson, Robert Stanley B.S. 1952, United States Naval Academy	Pa.
Roberson, Elbert Belmont, Jr. B.S. 1949, The George Washington University	D.C.	Robertson, Robert Stanley Bayne Robertson, Roger Elmer B.S. in E.E. M.S. in E.E. 1942 Massachusetts Institute of Technology	Pa.
Roberts, Almette Carter	Ind.	Robey, Paul Andrew, Jr.	Pa.
Roberts, Berthel Leonard	Greg.	Robette, Raleigh Carson	Pa.
Roberts, Berry Rosendorf	D.C.	Robins, Douglas Kerr	Pa.
Roberts, Cyle F., Jr. B.S. in B.A. 1948, Boston University	Va.	Robinson, Betty Jean	Pa.
Roberts, Donna Louise A.B. 1951, The George Washington University	Va.	Robinson, Eric Victor B.S. 1949, University of Buffalo	Pa.
Roberts, Georgia Strongbridge B.S. 1941, Phillips University	Ky.	Robinson, Grace Geneva Stanley	Pa.
Roberts, Harley MacNair A.B. 1951, Princeton University	N.J.	Robinson, Guy Harold, Jr.	Pa.
		Robinson, Harold LeRoy	Pa.
		Robinson, Hayes Graham	Pa.
		Robinson, Hugh Marvinson B.S. 1948, United States Naval Academy	Pa.
		LL.B. 1948, The George Washington University	Pa.
		Robinson, James Arthur	Pa.
		Robinson, Larry Edward	Pa.
		Robinson, Leroy B.S. 1950, LL.B. 1951, Wake Forest College	Pa.



# Students Registered

535

Robinson, Nancy Washburn	N.Y.	Roe, Joseph Hyram, Jr.	D.C.
Robinson, Owen Everett	D.C.	A.B. 1950, Yale University	
Robinson, Patricia Karin	Md.	A.M. 1951, The George Washington University	
Robinson, Quentin Roosevelt	Md.		
Robinson, Robert Strother	Va.	Roe, Martha G.	Md.
B.S. in P.E. 1947, The George Washington University		Roland, Laxine Herman	D.C.
Robinson, Roland Robert		B.S. 1950, University of Wisconsin	
Robinson, Tom Witten	W Va.	Roespeke, Lewis Austin	D.C.
A.B. 1949, Occidental College	Calif.	Roepe, Herbert Bruns, Jr.	D.C.
Robinson, Warren Clayton		Roesell, Alexander Seymour	D.C.
Roscher, Jonas Bondi, Jr.	D.C.	B.F.S. 1955, Georgetown University	
A.B. 1942, Brown University	D.C.	Rogan, Luella Edith	D.C.
J.D. 1948, The George Washington University		Rogers, Charlotte David	Ky.
Robbie, Dana Bush		A.B. 1951, The George Washington University	
B.S. 1957, St. Bonaventure's College	D.C.	Rogers, Donald Alan	Va.
and Seminary		Rogers, George Johnston	Va.
M.S. 1947, New York State Teachers College, Albany		Rogers, James Leroy	D.C.
Rohles, Pedro		B.S. 1950, Catholic University of America	
Rohrer, Catherine Myra	D.C.	Rogers, John Berchman	D.C.
Rohne, John Manley	Fla.	Rogers, John Breese	Va.
Rochester, Robert Kendall	Mich.	Rogers, Lester	D.C.
A.B. 1950, Wayne University	Va.	A.B. 1945, The George Washington University	
A.M. 1951, University of Michigan	Va.	Rogers, Marion George	D.C.
Rocker, Arno		E.D.M. 1939, University of Pittsburgh	
Roswell, Chester Scott	D.C.	Rogers, Michael Edward	D.C.
A.B. in Ed. 1947, Shepherd College	Va.	B.S. 1948, Columbia University	
A.M. in Ed. 1950, The George Washington University		Rogers, Palmer	N.Y.
Roswell, Franklin Abraham		B.S. 1950, Yale University	
A.B. in Ed. 1941, Shepherd College	Va.	Rogers, Preston Charles, Jr.	Md.
Rosiers, Robert Gerald		A.B. 1949, Johns Hopkins University	
A.B. 1944, University of Pittsburgh	Va.	Rogers, Samuel Lyle	N.Y.
A.M. 1949, American University		A.B. 1951, Dartmouth College	
Rodley, Arthur Rogers		Rogers, Thomas Alphonso	Md.
B.S. 1951, University of South Carolina	S.C.	Rogers, Waid	N.Y.
Roddy, Helen Frances		A.B. 1950, Yale University	
Roddy, Joan Charles		Rogers, Wilbur Boyce, Jr.	Va.
Roddy, Mary Elizabeth	D.C.	Rogow, Howard Alan	Calif.
A.B. 1925, Oklahoma College for Women	D.C.	A.B. 1941, College of William and Mary	
Roderick, Donald Lee	Okla.	Rohald, Jean Ginger	D.C.
Rodgers, Anne Louise		Rohles, Paula Allison	Calif.
Rodgers, Constance J.	D.C.	Rohr, Ernest Leonard, Jr.	Va.
Rodgers, Darrell Elmer	Pa.	B.S. 1957, Randolph-Macon College	
Rodgers, David Arthur	Ill.	Rolander, Robert Dale	Kans.
Rodgers, Donald Richard	Va.	B.S. 1950, University of Colorado	
B.S. 1944, United States Coast Guard Academy	Va.	Rolfe, Harriet Belle	Va.
Rodgers, James Edwin	D.C.	Rollet, Rudolph Valentin	Pa.
LL.B. 1950, The George Washington University		B.S. in Eng. 1949, University of Pittsburgh	
Rodgers, Marguerite Marie	Pa.	Roller, Frank Corner	D.C.
Rodgers, Orville Joseph		B.S. 1949, University of Arizona	
Rodgers, Paul B., Jr.	Pa.	Rollins, Andee	W Va.
Rodgers, Robert Eugene	Va.	Rollins, Donald Cooke	Va.
A.B. 1947, Yale University	D.C.	Romick, Robert Franklin	D.C.
Rodley, Ernest Maurice	S.C.	Rolph, John Fletcher	Md.
M.S. 1944, Notre Dame University	Va.	Romanov, Ivan D.	Mich.
Rodman, Charlotte Rae	D.C.	Rombouts, Robert Marvin	
A.B. 1942, College of Mines and Metallurgical Engineering, Texas	Iowa	A.B. 1951, Michigan State College	
Rodman, Victor William	D.C.	Rame, Gordon L.	Md.
B.S. 1951, Wilson Teachers College	N.Y.	Romeo, Grace	D.C.
	England	Romero, Albert R.	N.M.
		Romero, Mary	Costa Rica
		Romney, Joseph Henry	Pa.
		Romney, Vernon Bradford	Utah
		B.S. 1948, University of Utah	
		Ronald, Seymour John	Fla.
		LL.B. 1951, University of Miami	
		Randazzo, Daniel Angelo	N.J.
		Raul, Jane Winger	Md.



Rook, Michael Kitching	Md.	Rosendorf, Harvey	D.C.
Rook, Joseph Samuel	D.C.	B.S. in B.A. 1951, University of Maryland	Md.
B.S. 1941, Pennsylvania State Teachers College, Shippensburg		Rosendorf, Stanley Bernard	Va.
A.M. in Ed. 1948, The George Washington University		B.S. 1948, University of Maryland	N.Y.
Rook, Wilson Crawford	Tex.	Rosenfeld, Sidney Nathan	D.C.
Rooney, John Joseph	D.C.	B.S. 1941, University of Maryland	D.C.
Rooney, William Albert	Wash.	Rosenham, Beatrice Miriam	D.C.
Ross, Kathryn Johnson	Va.	A.B. 1950, Bucknell University	D.C.
Ross, Kinsey Henry	Va.	Rosenman, Vivian Carmel	D.C.
Roper, George, Jr.	Tex.	Rosenthal, Alan Henry	D.C.
Ropkin, Gerald	D.C.	LL.B. 1950, The George Washington University	Md.
Rosavage, Dolores Ann	Pa.	Rosenthal, Bernard	Md.
B.S. 1951, College Misericordia		Rosenthal, Bernard David	D.C.
Roscoe, Mary Frances	Va.	A.B. 1950, University of Maryland	Md.
B.S. in Ed. 1940, Longwood College		Rosenthal, Elaine P.	D.C.
Rose, Alan Conrad	Md.	Rosenthal, Helen Miller	Md.
B.S. 1944, Massachusetts Institute of Technology		A.B. 1950, Wellesley College	D.C.
Rose, Arthur	N.J.	Rosenthal, Max Feurstein	D.C.
A.B. 1951, Rutgers University		Rosenthal, Melvin Stanley	D.C.
Rose, Carl Leon	Va.	A.B. 1949, The George Washington University	D.C.
Rose, Kenneth Jeter	Va.	Rosenthal, Myra Natalie	D.C.
Rose, Neil Mersen	N.J.	Rosenthal, Saul	D.C.
B.S. in M.E. 1949, Northwestern University		A.B. 1949, Catholic University of America	D.C.
Roseberry, Leroy Wallace	Va.	Rosloff, Aaron	Calif.
Roseborough, Robert James	D.C.	B.S. 1950, American University	D.C.
B.S. in B.A. 1950, Washington University		Ross, Audrey May	D.C.
Roseman, Johnnie Faye	Va.	Ross, Bob	D.C.
Rosemont, Robert Kent	Calif.	Ross, Clifford E.	D.C.
Rosen, Alvin	Md.	Ross, Daniel Michael	D.C.
Rosen, Herbert Harry	D.C.	A.B. in Govt. 1946, A.M. in Govt. 1948, The George Washington University	D.C.
Rosen, Lawrence	D.C.	Ross, Guy Eliot	D.C.
B.S. 1948, LL.B. 1950, University of Wisconsin		Ross, Ian Kenneth	D.C.
Rosen, Lawrence	Md.	Ross, John Bernard	D.C.
Rosen, Richard James	N.Y.	Ross, Joseph	D.C.
Rosen, Robert Martin	N.Y.	B.S. 1950, Pennsylvania State Teachers College, Indiana	D.C.
B.S. 1950, New York University		Ross, Lora Amelia	D.C.
Rosenbaum, Joseph Hans	Md.	Ross, Marvin Stanley	D.C.
B.S. 1947, Lowell Textile Institute		Ross, Mary Romans	D.C.
A.M. 1949, Ph.D. 1950, Clark University		A.B. 1949, Grinnell College	D.C.
Rosenbaum, Marcus Anthony	Md.	Ross, Michael	D.C.
Rosenberg, Alan	D.C.	LL.B. 1949, Boston College	D.C.
A.B. 1949, New Jersey State Teachers College, Montclair		Ross, Samuel B.	D.C.
A.M. 1950, Columbia University		A.B. 1951, University of Pittsburgh	D.C.
Rosenberg, Arthur	N.J.	A.M. 1954, Ph.D. 1951, Columbia University	D.C.
Rosenberg, Hyman Louis	D.C.	Rosse, Robert Morton Meyer	D.C.
Rosenberg, Ida Barbara	D.C.	A.B. 1950, University of Virginia	D.C.
Rosenberg, Marc	Mo.	Rosten, Jack Leopold	D.C.
A.B. 1946, Washington University		B.S. 1941, The George Washington University	D.C.
Rosenberg, Max	N.J.	Rossi, Alfred George	D.C.
A.B. 1947, Hunter College		Russett, Charles Glenmore	D.C.
Rosenberg, Melvin Raymond	D.C.	Rustand, Herbert Edward	D.C.
Rosenberg, Morris	D.C.	Rutchen, Morris	D.C.
Rosenberg, Thomas	N.Y.	Ruten, John Wesley	D.C.
Rosenberger, Mary Jane	Va.	Rotermund, Maynard Burr	D.C.
Rosenblatt, Harry Myer	D.C.	A.B. 1951, University of California	D.C.
B.S. 1948, The George Washington University		Roth, Charlotte Beth	D.C.
Rosenblatt, Lenora	Md.	Roth, Eli B.	D.C.
Rosenblatt, Marvin Bruce	D.C.	B.S. in E.E. 1950, M.S. 1949, United States Naval Academy	D.C.
Rosenblum, Joseph	D.C.	Roth, Ida Sarah	D.C.
B.S. 1951, Ohio State University		Roth, Marine	D.C.
Rosenblum, David Joseph	N.Y.	Roth, Paul Alexander	D.C.
B.S. 1949, The George Washington University		A.B. 1951, University of North Carolina	D.C.

# Students Registered

537

Roth, Robert Bryant		Rubak, Lorraine	N.Y.
Rothberg, Samuel Bernard	D.C.	Rubin, Louis Leonard	D.C.
B.S. in Eng. 1951, The George Washington University		Rubenstein, Vida Ellen	D.C.
Rosenberg, Harriet Anshin	D.C.	Rubin, Hilda C.	D.C.
B.S. 1947, Tufts College		B.S. in Ed. 1950, College of the City of New York	
Rosenberg, John Martin	D.C.	Rubin, Louis	D.C.
Rosenberg, Galen Wayne	D.C.	B.S. 1950, Wilson Teachers College	Va.
Rosenberg, John Allen, Jr.	Nebr.	Rubin, Norma	Ill.
B.S. 1945, Northwestern University	Va.	Rubinstein, Julius Louis	N.Y.
Rosenberg, Richard Cleves	Va.	Rubinstein, Roy Monas	N.Y.
Rosenstein, Nathaniel	N.Y.	B.S. 1944, University of Pennsylvania	
B.S. 1950, The George Washington University		Rubman, Herbert	D.C.
Roskin, Irving Jacob	Md.	A.B. 1949, Brooklyn College	
B.S. in M.E. 1946, Virginia Polytechnic Institute		Rucker, Marjorie Ann	D.C.
Rosenthal, Bertie Millett	Va.	Rudasill, Leroy U.	D.C.
Rosenthal, Martin Moore	Va.	Rudd, Velva Elaine	D.C.
Rosentree, Robert Manning	Va.	B.S. 1951, M.S. 1952, North Dakota Agricultural College	
A.B. 1948, Mercer University		Ruddell, George Randolph	Md.
Rose, Elizabeth B.		Rudden, Peter V.	D.C.
Rose, Harold Jack	Md.	A.B., A.M. 1951, Catholic University of America	
Rose, Lawrence Carmen	Okla.	Rudich, Joseph Robert	Md.
A.B. 1951, The George Washington University	N.Y.	Rudich, Michael J.	Va.
Rosibly, Mohamed Abdel Moneim	D.C.	B.S. 1949, New York University	Maine
A.B. 1947, Fouad I University, Egypt		Rudman, Gerald Earl	
Rosier, Evangelos Vasiliou	D.C.	A.B. 1949, University of Maine	
Rosier, Edith Mary	Mass.	Rudolph, Samuel	D.C.
A.B. 1949, Bates College		Rudy, Lester Eugene	D.C.
Rosier, Marie Jeannine	D.C.	A.B. 1951, The George Washington University	
Rosin, Sara		Rudy, Robert Thomas	D.C.
B.S. in Ed. 1950, Madison College		B.S. 1952, Wilson Teachers College	
Rosin, Michael Beatty		Rue, Audrey Hazel	D.C.
Rosin, Roger Benjamin	Va.	Rueda, Richard, Jr.	N.J.
Rosin, George Joseph	D.C.	Rueff, Carter Wise	D.C.
Rosin, Margaret Frederick	N.J.	Ruegg, Palmer William	Va.
Rosin, Shirley Grant	Md.	B.S. 1950, College of the City of New York	
A.B. 1950, The George Washington University	D.C.	Ruemeli, Robert Frank	Mo.
Rosin, William Dennison, Jr.		B.S. in M.E. 1943, Washington University	
A.B. 1949, LL.B. 1950, The George Washington University	Va.	Ruff, Byron LaMar	Pa.
Rosin, Russell	D.C.	A.B. in Govt. 1950, The George Washington University	
Rosin, Thomas Wesley	Va.	Ruffner, Eleanor Anne	D.C.
Ed. B. 1941, University of Chicago		A.B. 1949, Miami University	
Rosland, Herta Schewe	Va.	Ruffner, Genevieve	D.C.
Rosland, Mary Joyce	Va.	Rugen, Barbara Dorach	Va.
Rosland, Marvin Lee		A.B. 1942, College of Wooster	
Rosin, Daniel	D.C.	Ruggieri, Anne Lucille	R.I.
Rosin, Daniel	Va.	Ruhlman, Tonell Louis	Pa.
Rosin, Harriette Adrienne	Pa.	B.S. in Ch.E. 1949, Pennsylvania State College	
A.B. 1949, University of California	Md.	Ryhm, Howard Bernard	D.C.
Rosin, Margaret Esther	N.H.	Rufin, Wilhelmus Jeronimus	D.C.
Rosin, Donald Carvar	Calif.	Ruhlman, Anne Harris	Va.
Rosin, Robert C.	D.C.	Rushbrook, Francis Lou	D.C.
A.M. 1944, University of Madrid		Rushfield, Norris R. hard	D.C.
Rosinsky, Gerald Ivan	Md.	Rushford, Donald Chester	Va.
Rosin, Robert Sanford	Spain	Rumke, Richard William	D.C.
A.B. 1949, University of California		Runge, Deane	N.Y.
Rosin, James Clay	D.C.	Runner, Edwin C.	W.Va.
A.B. 1950, The George Washington University	Va.	A.B. 1949, A.M. 1950, West Virginia University	
Rosin, Jack	D.C.	Runner, Martha Louise	D.C.
A.B. 1949, A.M. 1950, Columbia University	N.Y.	Rusow, Hans Joachim Herbert	Va.
		Rushbrook, Leslie James	Va.
		A.B. 1950, American University	



Ruslander, Mark Joseph	Va.	Rynerson, Wendell Price	
Russ, Edythe Margaret	Pa.	A.B. 1926, De Pauw University	
Russell, Anne Carter	Va.	L.L.B. 1929, Indiana University	
Russell, Barbara Merrill	Ga.	L.L.M. 1947, The George Washington University	
Russell, Conrad Laird	Tex.		
Russell, DeAlton	Calif.	Ryno, Brooks	
Russell, George Albert	Md.	B.S. 1948, Hofstra College	
B.S. in E.E. 1947, Massachusetts Institute of Technology		Ryon, Joseph William	
Russell, Helen Louise	D.C.		
Russell, Howard Harding, Jr.	N.D.		
A.B. 1951, University of North Dakota		Saab, Issa Mousa	
Russell, Mary Eleanor	Va.	Saba, Vladimir Vratslav	
A.B. 1915, Oberlin College		Salvados, Peter John	
A.M. 1941, University of Mexico		Sabotini, Edmund John	
Russell, Robert Raymond	Mass.	Sabatino, James Robert	
B.S. 1919, United States Coast Guard Academy		Sabelle, Richard, Jr.	
Russell, Ronald Lee	W. Va.	Sabstlar, Freddie O.	
Russell, Stanton Best	D.C.	B.S. 1944, Cornell University	
B.M.E. 1949, The George Washington University		A.M. 1947, Columbia University	
Russell, Thomas Hale	Va.	Sabin, William Cooper	
A.B. 1949, Harvard University		B.S. 1951, University of Maryland	
Russell, William Augustine, Jr.	Va.	Sabo, Anne Pauline	
Russell, Willie Hayden	D.C.	A.B. in Govt. 1946, The George Washington University	
A.B. 1944, Ed.M. 1948, Oklahoma City University		Sabol, Eugene	
Russo, Sarah Churchill	Va.	B.Ch.E. 1950, Rensselaer Polytechnic Institute	
A.B. 1941, Hollins College		Sabula, Paul Stephen	
Ruszkiewicz, Joseph Edward	Pa.	Sacco, Fred Joseph	
B.S. in E.E. 1948, University of Pittsburgh		A.M. 1948, Columbia University	
Ruth, Joseph Young	Pa.	Sachs, Theodore	
A.B. 1944, The George Washington University		A.B. 1944, Brooklyn College	
Rutherford, Jeanette Anne	Va.	A.M. 1949, Columbia University	
Ruttenberg, March Skillman	Pa.	Sackman, Robert	
A.B. 1948, Wellesley College		Sacks, Jacob Milton	
Rutts, Carl Joseph	Pa.	Sacks, Robert Neal	
Rutts, James William	Tex.	Sadler, Ivan Roy	
Rutsky, Edward M.	N.Y.	B.S. in E.E. 1950, Texas Western College	
Ryan, Charles Patrick	Pa.	Sadek, Anna	
Ryan, Dorothy Ellice	Va.	Sadek, Mahmoud Mohamed	
A.B. 1951, American University		Sadek, Joseph Anthony	
Ryan, Edward Francis	D.C.	Sadowsky, Anthony John, Jr.	
Ryan, Gerald Edward	D.C.	Sadowsky, Eugen	
B.S. in I.S. 1950, Georgetown University		Sadowsky, Larry Valery	
Ryan, James Richard	Pa.	Sadowsky, Gersten	
Ryan, John Clifford	Va.	B.M.E. 1947, College of the City of New York	
A.B. 1947, Iowa College		Safa, M. Hassan	
Ryan, John Joseph	Md.	Safer, Susan Arway	
Ryan, John Michael	Pa.	A.B. 1957, Western Reserve University	
B.S. 1955, La Salle College		Safford, Henrietta Brewster	
Ryan, John Pat	D.C.	A.B. 1940, Radcliffe College	
Ryan, John Powell	Md.	Sager, Arthur Irvine	
Ryan, Philip Michael, Jr.	Pa.	Sager, Evelyn Rogers	
Ryan, Rita Marie	N.Y.	Sager, Gene Guntz	
Ryan, William Edward	Md.	Sager, John Hammer	
B.S. in E.E. 1941, University of Michigan		A.B. 1948, Princeton University	
Ryder, Elizabeth Margery	D.C.	Sager, Oscar Simon	
Ryder, Robert Barton	Conn.	A.B. 1949, New York University	
Rydhalm, William Norman	Mass.	Sager, Ralph Franklin	
A.B. in Govt. 1951, The George Washington University		Sager, Stanley Melvin	
Ryder, Karen Marie Elizabeth	Sweden	B.S. 1946, United States Merchant Marine Academy	
Rydlow, Douglas Joseph	D.C.	A.B. 1948, Duke University	
Ryman, Kenneth Warren	Pa.	Saegse, Arnold	
Rymer, Thomas Arlington	Md.	B.S. in I.S. 1951, Georgetown University	
B.C.E. 1948, Cornell University		Saemon, Irving	
		Saemon, Jeanne S.	
		Sagle, Robert Franklin	
		A.B. 1951, The George Washington University	



# Students Registered

539

Sahn, Henry Spencer B.S. 1931, Leland University	Pa.	Sampson, Archibald Johnson A.B. 1935, Stanford University	S.C.
St. Amand, Joseph Maxim, Jr. B.S. in E.E. 1949, Purdue University	Ind.	A.M. 1946, University of California at Los Angeles	
St. Clair, Guyon W. St. Clair, Robert Gordon	Tex.	Sampson, Patricia Edine	D.C.
St. Clair, Virginia Anne	Va.	Samson, Chester Page	Va.
St. George, William Ross	Va.	Samuelson, Frederick Clarence	Ill.
B.S. 1946, United States Naval Academy	N.C.	Samuelson, Glendene Marie	Vt.
St. John, Marie A.B. 1948, Catholic University of America	D.C.	Samuelson, Kenneth Robert	Ill.
St. John, Richard A.B. 1950, Catholic University of America	D.C.	San Agustin, Joe T. Antonio	Guam
St. John, Ernest Keyes B.S. 1950, Pennsylvania State Teachers College, East Stroudsburg	D.C.	Sanborn, Francis Reo	Mich.
St. Ledger, James Joseph	D.C.	Sanborn, Joan Lawton	Md.
B.S. 1950, Pennsylvania State Teachers College, East Stroudsburg	D.C.	Sanborn, Ben P.	N.M.
St. Leger, John B.		Sanchez, Burdette Boardman	Pa.
St. Louis, Therese Jacqueline	Md.	Sanchez, Emma	Mexico
LL.B. 1944, Albany Law School	D.C.	Sanchez, Louis John	N.M.
LL.M. 1948, St. Lawrence University	D.C.	Sanchez, Luis Rafael	D.C.
St. Omer, Roy Arthur Elmer	Pa.	Sanchez, Margaret May	D.C.
Santo, Sachio A.B. 1941, University of California at Los Angeles	Md.	Sancho, Isabel	Puerto Rico
Sarof, Catherine	D.C.	Sandalla, William Thomas	Costa Rica
Sikonen, Maunthuan	Pa.	A.B. 1948, University of Denver	D.C.
M.C. 1945, University of Allahabad, India		Sandeen, Charles Edward	Va.
Sale, Pierre Lucien A.B. 1947, Columbia University	Md.	Sandel, Leo A.B. 1951, Kent State University	Ohio
Salekovic, Sue Feld A.B. 1941, University of North Carolina	Md.	Sanderford, Helen Laura	N.C.
Sallas, Gustav Adolph A.B. 1950, The George Washington University	D.C.	Sanderlin, Sue Frances	D.C.
Salam, Nuriat Majid	D.C.	Sanders, Bertram Webb	Ind.
Salamon, Ralph Franklin		A.B. 1942, Earlham College	
Salter, William	D.C.	Sanders, Donald Earl	Va.
Salter, Elliot Arnold B.S. 1946, Brown University	Iraq	A.B. in Chem. 1951, The George Washington University	
Salter, John Lane	Pa.	Sanders, Iris Marie B.S. 1951, Columbia University	Va.
Salt, Paulette Marie	Md.	Sanders, Jean Lewis	D.C.
A.B. 1950, The George Washington University	R.I.	Sanders, Frank Powell	N.C.
Saltzman, Bernardo Enzo	Md.	Sanders, Leonard Louis	Pa.
Saltzman, Cayan David L.E.E. 1946, The George Washington University	D.C.	Sanders, Leslie Elwood A.B. 1942, Franklin College of Indiana	D.C.
Saltzman, Joseph	N.Y.	Sandless, Mark	D.C.
Saman, James Arthur		Sanders, Philip	D.C.
Saman, Leah Haim		Sanders, Ralph Byron	D.C.
Saman, Max D.		Sanders, Robert Alexander	Md.
A.B. 1947, University of Missouri		B.S. 1943, California Institute of Technology	Va.
Saman, Fitch, Evelyn		Sanders, Robert James, Jr. B.S. 1948, LL.B. 1951, Fordham University	N.Y.
A.M. in Ed. 1947, The George Washington University		Sanders, Wharton Seymour, Jr.	Md.
Sampson, Theodore James, Jr. A.B. 1951, University of Michigan		Sanders, William Gerard	Va.
Sampson, Carolyn Lamar		Sanderson, Anne Isabel	D.C.
Sampson, Ramona		Sanderson, Gave Murrell	Va.
		Sanderson, John Melville	Va.
		Sandford, Margaret B.	Mass.
		Sandlin, Bruce Martin	Va.
		Sandler, Henry Murton	Pa.
		Sandler, Jerome Lewis	D.C.
		Sandler, Miriam	D.C.
		Sandmeyer, Melvin Wesley, Jr. A.B. 1950, The George Washington University	D.C.
		Sands, George Lewis A.B. 1949, Duke University	Del.
		Sanda, Gertrude	D.C.
		Sandwich, Marilyn Jane	Ill.
		Sandford, Edith Smith B.S. 1946, Longwood College	Va.
		Sanger, Marshall B.S. 1946, United States Military Academy	N.Y.
		Sanka, Sakurako	D.C.
		Sanphy, Elizabeth Florence	Maine
		Sanson, Carlos E.	Nicaragua

Sansum, Lauane Earl	Calif.	Sawyer, Edith Lott	Md.
A.B. 1947, University of California		Sawyer, Francis David	N.C.
Sapp, Clyde Cecil	Ga.	Sawyer, George Edward	N.C.
Sapp, Evelyn Virginia	Fla.	Sawyer, Grace Henrietta	D.C.
Saraban, Bernard Leonard	Md.	Sawyer, Lola Gray	N.Y.
B.S. 1942, Loyola University		Sawyer, M. Claire	
M.S. 1948, Harvard University		A.M. 1934, Columbia University	
Saranac, Lewis	N.Y.	Saxon, George Edward	
B.S. 1949, University of Utah		Sayers, William W.	
Sarbov, Demo Christos	D.C.	Saylor, Mary Louise	
Sarfan, Mayer Alvin	Va.	B.S. 1936, University of Illinois	
B.S. 1947, L.L.B. 1950, University of Virginia		Saylor, Henry Clay	
Sarkipato, Ida M.	D.C.	B.S. 1949, University of Maryland	
Sarosi, Oliver	D.C.	Saylor, James Burton	
Sarris, Milton	D.C.	A.B. in Ed. 1949, A.M. in Ed. 1951, The George Washington University	
A.B. 1950, West Liberty State College		Saylor, Jay D.	
A.M. 1951, West Virginia University		Sayre, Elizabeth May	
Sartor, Louis Jean	Va.	Sayre, Enoch Phillip	
Sasboamidjojo, Titi R.	Indonesia	A.B. 1950, University of Washington	
Sarlaw, Leonard David	N.Y.	Sayre, Robert Marion	
B.S. 1949, College of the City of New York		A.B. 1949, Willamette University	
Sasso, Roberto	D.C.	Scalfidi, Alfred	
Sastroamidjojo, Savitri Pradinaviti	Indonesia	Scanlan, Sidney Joseph	
Sathe, Andrew Gerhard	N.D.	Scanlan, Thomas Russell, Jr.	
B.S. 1950, University of North Dakota		A.B. 1949, The George Washington University	
Sato, Mashiro	Japan	Scanlon, Bertha Teresa	
A.B. 1948, Waseda University, Tokyo		Scanlon, John Edward	
Sattler, Leonard S.	N.Y.	B.S. 1951, Georgetown University	
B.S. 1949, Seton Hall University		Scannell, Helen Constance	
L.L.B. 1951, Georgetown University		Scarrano, Gerard John	
Sauer, Herbert Irvin	Ohio	Scarborough, James K.	
A.B. 1942, Ohio State University		A.B. 1949, L.L.B. 1951, The George Washington University	
Saul, Bernard Francis	D.C.	Scarborough, Maxine	
Saul, Howell Jay	N.Y.	A.B. 1947, University of South Carolina	
Saul, Norma Helen	D.C.	A.M. 1947, Columbia University	
Sauls, John Clinton	Ga.	Scarrow, William Arthur	
Saunders, Edward Monell	N.Y.	Scavullo, Joseph James	
B.S. 1945, United States Naval Academy		M.E. 1941, Stevens Institute of Technology	
B.C.E., M.C.E. 1948, Rensselaer Polytechnic Institute		Schaefer, Donald Weiner	
Saunders, George William	Md.	Schaeffer, Charles Perry	
B.S. 1948, Wilson Teachers College		A.B. 1950, University of Maryland	
Saunders, Joseph Francis	D.C.	Schaeffer, Charles William	
B.S. 1950, Duquesne University		Schaeffer, John Arthur	
Saunders, Loyd Daniel	Va.	Schafet, Frederick	
Saunders, Mary Frances	Mass.	B.S. in C.E. 1925, L.L.M. 1951, The George Washington University	
A.B. 1949, Emmanuel College		Schaffert, Justin Clark	
Saunders, Mildred Lee	Va.	B.F.E. 1949, The George Washington University	
Saunders, Nancy Nell	D.C.	Schalau, Robert Duane	
Saunders, Sidney	Va.	Schaluk, Walton Oravi, Jr.	
Sautel, Maxine Joan	D.C.	Schattnet, Theodore Jacob	
Sause, Oliver Lawrence, Jr.		B.H.A. 1941, College of the City of New York	
A.B. 1939, University of North Carolina		Schatz, Bernard	
Sautehin, Blanche A.	D.C.	Schatzman, Joan Carolyn	
A.B. 1914, Jamestown College		Schaub, Harry Carl	
Sauveur, Anita Belle	Tenn.	A.B. 1952, University of Pennsylvania	
Savage, Arthur Paul		Schaub, William Clark	
Savage, Howard Lane, Jr.		Schaym, Anna Helene	
A.B. 1948, Vanderbilt University		Scheel, Nicholas Tyler	
Savage, John William	D.C.	Scheerer, Carl Russell	
Savary, Donald Lee, Jr.	Fla.	Scheiman, Philip H.	
B.F.E. 1949, University of Florida		Scheimer, Murray Center	
Saville, John William	Md.	Schellberg, William Vincent	
A.B. 1950, The George Washington University		B.S. in F.E. 1916, University of Louisville	
Saville, Richard Charles	Md.		
Savoldelli, Jennie F.	Wis.		
B.S. 1919, Milwaukee State Teachers College			



# Students Registered

541

Schelsner, Ole Christen B.E. 1940, Wisconsin State Teachers College, Stephens Point	Wis.	Schmeltzer, Edward A.B. 1950, Hunter College	Md.
Scheltens, Johannes Lorenzo B.S. 1951, The George Washington University	Md.	A.M. 1951, Columbia University	D.C.
Scheltens, Rudolf Siegfried B.S. 1951, The George Washington University	Md.	Schmelzer, Richard Louis	Pa.
Scheltens, Walter Roland B.S. in B.A. 1951, Rutgers University	Md.	Schmertz, Robert Colgan B.S. in E.E. 1943, Princeton University	
Schenck, John Charles L.B. 1951, The George Washington University	N.J.	Schmid, Larry Philip	Pa.
Scherer, Suzanne Lloyd Scherer, Bernard Beryl B.S. in E.E. 1946, University of Wisconsin	N.C.	Schmid, Paul Emil, Jr. Schmidt, Arthur Walter B.S. 1948, Webb Institute of Naval Architecture	D.C. Va.
Scherbak, William John Scherff, Roger Alan A.B. 1950, The George Washington University	N.J. Va. N.J.	Schmidt, Catherine Marie Schmidt, Charles Gordon A.B. 1951, University of Maryland	N.Y. Md.
Schetschne, Floy Mann Schick, Paul Raymond Schick, Hugo Angelo Schick, Herbert Gustav A.B. 1942, I.L.B. 1949, University of Pennsylvania	Md.	Schmidt, Christian Joseph B.S. in B.A. 1947, Rutgers University	Va.
Schick, Irvy Henry Schick, Hays Lou Schick, Betty Jane Schiff, Geraldine Rita Schiff, Jeanne Ruth Schiffman, Gilbert Bernard A.B. 1951, The George Washington University	D.C. Va. D.C. Pa. Pa. D.C. Minn. N.I. Md. Md.	Schmidt, Dorothy Augusta Schmidt, Gerd Elizabeth Schmidt, Joseph George Schmidt, Richard Frederick Schmidt, Virginia Rose Schmitt, Gaylord John Schmitt, Frances Marx Schmitt, Frederick Joseph III Schmitt, Richard Frederick B.S. 1950, University of Scranton	Md. Va. Pa. D.C. Ill. Ill. Pa. Md. Pa.
Schiffman, Harold B.E. 1951, The George Washington University	Mass.	Schnookler, Michael Schmack, George Albert Schmuck, William Mack Schneider, Allan Melvin Schneider, Allen Herbert Schneider, Harold I.L.B. 1942, Columbia University	N.Y. Va. Pa. D.C. Calif. D.C.
Schiller, William Schlesinger, Irvin Burl Schlesinger, Norman Galt Schuler, Alton Schuler, David Malford B.S. in E.E. 1948, Carnegie Institute of Technology	N.Y. D.C. D.C. D.C. D.C.	Schnipper, Herbert A.B. in Govt. 1949, The George Washington University A.M. 1950, University of Michigan	N.Y.
Schulman, Ellen Jackson Schulman, Clarence William Schulman, Fern D Schulman, Rosalie Ann Schulman, Leon Joseph Schulman, Edward Lee A.B. 1947, A.M. 1949, Temple University	D.C. Tex. D.C. D.C. D.C.	Schocket, Charles Lewis Schocket, Lorraine Muriel Schoen, Thomas Lee Schoenfeld, John Short Reid A.B. 1949, Washington and Lee University	N.J. Md. Ks. D.C.
Schulman, Gerald George Schulman, Morris Schulman, Roy Ramon, Jr. A.B. 1951, State University of Iowa	D.C. D.C. D.C. D.C.	Schoenfeld, Marjorie Lee Schoenkopf, Richard Wallace Schoenfeld, Herbert Mellor Schiella, Sandra Lynn Schonmet, Theodore Benard Schonberger, Claude Marvin Schonley, Mary Elizabeth Schort, Deena Ruth Schoudt, Paul Bernard Schramm, William Hanley B.S. 1950, St. Louis University	D.C. Pa. Conn. Md. Fla. N.D. D.C. N.J. Va. Mo.
Schulz, Adolph Sam Schulz, Roland Wendal B.S. in E.E. 1949, Duke University	Iowa	Schran, Donald R. B.S. in M.E. 1949, University of Pittsburgh	Md.
Schulz, Charles Sydney B.S. 1951, Bowdoin College	D.C.	Schreiber, Carol Hermine Schreiber, Hilda A.B. 1944, The George Washington University	N.Y. Ohio
Schulz, Evelyn Regina Schulz, Robert Edward Schulz, Henry Walter B.S. 1947, Lebanon Valley College	N.Y. Md. D.C. Pa.	Schreiber, Mary Ruth Schreiber, Samuel Michael B.S. 1950, The George Washington University	Va. Mich.
		Schreiber, Thelora L. A.B. 1950, University of Kansas	Colo.
		Schreiner, Leon H. B.S. 1943, University of Wyoming	Colo.
		M.S. 1947, M.D. 1948, Ph.D. 1950, Northwestern University	
		Schrenk, Lorenz Philip	D.C.



Schrier, C. Esther	N.Y.	Schwartz, Robert Charles	N.Y.
Schriner, Anna Drocilla	Md.	Schwartz, Rosalyn	D.C.
B.S. 1950, Maryland State Teachers College, Frostburg		A.B. 1949, The George Washington University	D.C.
Schroder, Mary Ellen	Ill.	Schwartz, Sol	D.C.
Schroder, William Thomas	Va.	B.Ch.E. 1948, College of the City of New York	Md.
A.B. 1938, Marquette University		Schwartz, Tamara	
A.M. 1946, Harvard University		Schwartzbach, Saul Marvin	Me.
Schroeder, Frederick John	N.Y.	A.B. 1949, The George Washington University	
B.S. 1938, United States Naval Academy		Schwartz, Frederick Charles	Me.
M.B.A. 1949, Harvard University	Md.	B.S. 1948, Panzer College of Physical Education and Hygiene	Va.
Schroeder, Robert Engle	Ill.	Schwartz, Harry Emmanuel	
Schroeder, William Edward	Md.	Schweiger, Irving	Va.
Schrumpf, Jeanne Marie		A.B. 1939, College of the City of New York	
B.S. 1947, Pennsylvania State College	Md.	Schweiger, Raye Rosenheck	Pa.
Schubert, Ethel Josephine		A.B. 1961, The George Washington University	Pa.
Schuchat, David George	Md.	Schweiker, Dorothy	Tex.
Schuele, William John	Pa.	Schweitz, Edwin Paul	
B.S. 1950, University of Pennsylvania		Schweizer, Berthold	Wash.
Schulda, Valasta		B.S. 1951, Massachusetts Institute of Technology	
B.S. 1942, University of Houston		Schwenk, Edwin Wallace	N.J.
Schuler, James Lee		Schwenk, John Peter	
B.S. 1947, Webb Institute of Naval Architecture		Schweser, Alfred Joseph	Ind.
Schuller, Margaret	N.J.	Sciamie, Beniamino Charles	Ohio
A.B. 1933, Wellesley College		Sciascia, Richard Salvatore	Md.
Schulte, Fred Walker		B.S. in E.E. 1949, Lafayette College	
Schulte, Roger Reid		Saints, Anthony Harry Ross	D.C.
Schultz, Richard Lawrence		Siscent, Valerie Germaine	Pa.
B.S. 1949, St. Francis College		Suthers, Ruth M. Kelway	Md.
Schultz, Theodore Arthur		Scobey, Richard Womack	
B.S. 1948, Capitol University		Scoffone, August V.	
Schultz, William Harrison		Scoggins, Ellen Cooney	D.C.
Schuitze, Charles Louis		Scoggins, Charles Robert	Wis.
A.B. 1948, A.M. 1949, Georgetown University		A.B. 1948, University of Maryland	
Schulz, Ettie Louise	D.C.	Scollon, Kenneth Marz	D.C.
Schultz, William Charles		A.B. 1950, The George Washington University	D.C.
B.S. 1948, University of Wisconsin		Scollon, Richard Calvin, Jr.	D.C.
Schulze, Richard Paul	Pa.	Scott, Charles Earl	D.C.
Schumann, John Charles	Va.	Scott, Dana Lee	D.C.
Schupp, Kenneth Earl		A.B. 1949, Yale University	
Schupp, Louis Albert	D.C.	Scott, Everett Chapin, Jr.	D.C.
Schuster, Arthur Seymour	Md.	Scott, Francis Xavier	D.C.
Schutz, Julian Adolph	D.C.	Scott, Fred Lewis	D.C.
A.B. 1940, Stanford University		B.S. in Ed. 1949, Pennsylvania State Teachers College, West Chester	
Schutz, Melvin		Scott, Gerald Leroy	D.C.
A.B. 1948, The George Washington University	D.C.	Scott, Jack Richard	D.C.
Schwab, Gerald		Scott, Jean Helen	N.H.
A.B. 1951, Stanford University	Va.	A.B. 1949, Radcliffe College	
Schwabke, Donald P.		Scott, Joseph Lee	Ill.
B.S. in M.E. 1951, Oklahoma Agricultural and Mechanical College		Scott, Joseph Raymond, Jr.	Ill.
Schwalenberg, Geraldine Ann	D.C.	Scott, Kenneth John	D.C.
Schwartz, Celia	N.Y.	A.B. 1951, Harvard University	D.C.
Schwartz, Gilbert	N.Y.	Scott, Martha Jane	Me.
B.S. 1949, Ohio State University		Scott, Owen Woody	Me.
Schwartz, Helen Janet	D.C.	Scott, Sue Ann	
A.B. 1948, The George Washington University		Scott, Walter Conrad	
Schwartz, Miriam Louise		Scott, Walter Theodore	
Schwartz, Milton Allan	Md.	Scott, Wilbur Newton	
B.S. 1948, College of the City of New York	N.Y.	A.B. 1942, West Liberty State College	
Schwartz, Mosam	D.C.	Seovel, Joan Carol	
Schwartz, Norman	N.J.	Seubner, Albert Willis	
Schwartz, Philip	N.Y.	B.S. 1949, Northeastern University	
Schwartz, Raphael Henry	D.C.	M.S. 1950, University of New Hampshire	
B.S. in M.E. 1959, Marquette University		Scrimegeour, Walter Thornton	
		Scrivenor, James Milton	

# Students Registered

543

Scruggs, Grace Euline A.B. 1948, Lynchburg College	Va.	Seiple, Maureen Larkin A.B. 1949, The George Washington University	D.C.
Scully, Joseph Louis	D.C.	Seiple, Stanley Herkimer A.B. 1949, University of Connecticut	D.C.
Senter, Loretta Susan A.B. 1948, Hunter College	D.C.	Seltz, Walter Robert Selander, Britt Marie	N.Y.
Seabrooke, Joan Sandra	Va.	Selbee, Ruth June	Wash.
Seale, William Harvey, Jr.	Va.	Selbee, Thomas McClure	Va.
Seale, Roman	Va.	Selmon, Joel	D.C.
Seel, Morgan Swaim B.S. 1949, The George Washington University	Va.	Selen, Mary Ellen	Mich.
Selock, Robert Winfield	Md.	Selen, Florence Leiken	Conn.
Selmon, Geason Osville	Va.	Selerman, Ethel Ruth	W.Va.
Sear, Naida Marion	D.C.	A.B. 1949, West Virginia University	
Sear, F. Eli	N.Y.	A.M. 1944, University of Michigan	
Sear, Walter Edmond	D.C.	Sels, Augustus	D.C.
Sear, Cecile Flankie	N.Y.	A.B. 1929, Dartmouth College	
Sears, Harry Edwin	D.C.	A.M. 1942, Columbia University	
Sears, Marie Barr	Pa.	Selkowitz, Lawrence Emanuel	Mass.
Sears, Robert Elsworth B.S. 1949, Simmons College	D.C.	A.B. in Govt. 1949, The George Washington University	
Sears, William Joseph B.S. 1950, University of Cincinnati	Va.	Sellinger, Robert Charles	D.C.
Sear, Charles Eugene	Va.	Sells, Harry George	Ohio
Sear, Donald Henry	N.Y.	A.B. 1949, University of Pittsburgh	
Sear, R. Paul	D.C.	Seltzer, Donald Miller	N.C.
Sear, Charles Dentley A.B. 1951, Lynchburg College	Va.	B.S. 1948, North Carolina State College	
Schager, Daniel Lamont A.B. 1950, The George Washington University	D.C.	Seltzer, Orin A.B. in Govt. 1951, The George Washington University	D.C.
Schick, Remond Jacob B.S. in M.F. 1946, University of Nebraska	Md.	Semkew, George Edward	Pa.
Schick, Walter J. A.B. 1949, M.A. 1951, Columbia University	D.C.	Semenian, Edward, Jr.	Va.
Schick, Harry Paul B.S. 1951, Georgetown University	D.C.	Semours, Joan Frances	D.C.
Schick, Robert Louis	D.C.	Semsker, Ralph Morton	D.C.
Schick, Edward Gustave B.S. 1942, University of Wisconsin	Va.	Semko, Scipio L.	Tex.
Schick, Michael	Md.	Senft, Josephine Hungen	Md.
Schick, Nancy Anne B.S. 1951, Cornell University	Mass.	A.B. 1948, St. Olaf College	
Schick, Donald Wayne	Va.	Senft, Otto Ernest A.B. 1943, Wartburg College	N.D.
Schick, Charles Jr.	D.C.	B.D. 1946, Wartburg Theological Seminary	
Schick, Elizabeth B.S. in Ed. 1947, Madison College	D.C.	Seng, Dubures Marie	Nebr.
Schick, Herman B.S. in Ed. 1947, Howard University	D.C.	Sengstack, George Fleming	D.C.
Schick, Rose Zuffin	D.C.	Sensi, John Eugene B.S. in M.E. 1949, Carnegie Institute of Technology	Pa.
Schick, Joseph	D.C.	Serabian, Georges Jack A.B. 1951, New York University	Md.
Schick, Irving	D.C.	Serbin, Mildred Carmela	D.C.
Schick, Helen Louise	D.C.	Serbin, Joseph Constant	Md.
Schick, Helen Frances	D.C.	Serbin, Joseph Constant	D.C.
Schick, E. 1951, Catholic University	N.Y.	Servais, Russell Lewis	W.Va.
Schick, Frederick Carl, Jr. A.B. 1946, University of Wisconsin	Ill.	A.B. 1950, The George Washington University	
Schick, William	Wis.	Servidin, Salvatore	Va.
Schick, Nilda G. A.B. 1946, Brooklyn College	Md.	Sesokian, John Michael	Pa.
Schick, Mildred Louise	D.C.	Sesler, Russell Nelson	D.C.
Schick, Jane Teresa	Ala.	Sever, Francis Neal A.B. 1951, University of South Dakota	Va.
Schick, Allegheny College	Pa.	Severe, Doris Wilmar	Md.
Schick, Mary Emma A.B. 1944, Wellesley College	D.C.	Severe, Everett	Md.
Schick, Mary	D.C.	Sewerton, Doris Ioy	Iowa
Schick, Mary C.	Burma	Sewerton, Norma Jewel	Iowa
Schick, Victor Emile, Jr.		Sever, James Henry A.B. 1923, Howard Payne College	Tex.
		Seward, Morton William A.B. in Govt. 1949, The George Washington University	Ill.
		Sewell, Willem H.	D.C.
		Sexton, John Montgomery	Vt.
		Seybold, Mary C.	Va.
		Seyen, Victor Emile, Jr.	N.Y.



Seymour, John Aloysius	Md.	Sharpe, David James	N.C.
Seymour, Phyllis M.	D.C.	A.B. 1950, University of North Carolina	N.C.
Shachner, Arthur Arden	N.Y.	Sharpe, Doris Rebecca	N.C.
Shaddix, William Newton	N.Y.	Sharpe, Virginia D.	Me.
Shade, Henry Casper	D.C.	A.B. 1922, Greensboro College	
Shade, Ned Louis	Pa.	Shaw, Daryl Winston	Pa.
Shafer, Fred James	Md.	B.S. in Ed. 1931, Pennsylvania State Teachers College, Mansfield	Pa.
Shafer, Ralph Maurice	D.C.	Ed.M. 1936, Duke University	Pa.
Shafer, Robert	Md.	Shaw, Dolores	Pa.
B.S. 1941, Rhode Island State College	Wis.	Shaw, Elizabeth	Pa.
Shafer, Robert Eugene		Shaw, Juanita Harriet	Pa.
B.S. 1950, University of Wisconsin	Ohio	Shaw, Lewis C.	Pa.
Shaffer, John Scott	Pa.	Shaw, Mary B.	Pa.
Shaffer, William Leslie	D.C.	B.S. 1951, Wilson Teachers College	Pa.
Shah, Ahmad Maqbool	D.C.	Shaw, Mary Evelyn	Pa.
Shah, Azra	D.C.	Shaw, Patricia Jean	Pa.
A.B. 1951, St. Joseph's College	Pakistan	Shaw, Robert Harrison	Pa.
Shah, Zara		A.B. 1940, Carroll College	Pa.
A.B. 1948, Kinniard College, Pakistan	D.C.	A.M. 1941, University of Wisconsin	Pa.
Shahinian, Sarah	Conn.	Shaw, Roger Neil	Pa.
Shain, Harold		Shaw, Wallace Campbell	Pa.
B.S. 1949, University of Connecticut	Ky.	Shaw, William Miller	Pa.
Shaller, Herman I.		Shea, Catherine Virginia	Pa.
A.B. 1941, Brooklyn College		Shea, Helen M.	Pa.
B.M.E. 1941, The George Washington University	Ohio	Sheahan, Marguerite Plummer	Pa.
Shamp, Richard Martin		A.B. 1920, University of Maine	Pa.
B.S. in Ch.E. 1949, University of New Mexico	D.C.	Shear, Albert Earl	Pa.
Shane, Margaret Brinkerhoff		Shearin, Forrest Green, Jr.	Pa.
A.B. 1948, The George Washington University	D.C.	B.S. 1949, Wake Forest College	Pa.
Shank, Joan Barry	D.C.	Sheble, John Howard III	Pa.
Shank, Robert Edgar	Md.	A.B. 1942, Williams College	Pa.
Shanklin, Jay Edwin	Ill.	Sheble, Walter Franklin	Pa.
Shanks, Betty Lou	Iowa	A.B. 1948, Princeton University	Pa.
Shanks, Edward Thomas	Mass.	Shechtman, Jerry Elmer	Pa.
B.S. 1943, Harvard University		M.B.A. 1951, University of Chicago	Pa.
Shannon, John Elmer, Jr.	Md.	Shedd, Aaron Neal	Pa.
B.S. 1948, Philadelphia College of Pharmacy and Science		B.S.E. 1950, Arkansas State College	Pa.
Shapiro, David	D.C.	Sheedy, David Richard	Pa.
LL.B. 1950, LL.M. 1951, The George Washington University		Sheek, Joyce Robertson	Pa.
Shapiro, Goodwin	N.Y.	Sheeler, Willard DeMont	Pa.
Shapiro, Gusave	D.C.	A.M. 1951, Cornell University	Pa.
Shapiro, Irving	Wis.	Shetfrell, Lee Wally	Pa.
Shapiro, Irving Frank		A.B. 1949, Syracuse University	Pa.
B.S. 1942, St. Ambrose College	N.Y.	Shenda, Walter Waldo	Pa.
LL.B. 1951, University of Wisconsin	D.C.	Sheldon, James Francis	Pa.
Shapiro, Lila Sarah	Va.	Sheldon, Robert Sedgewick	Pa.
Shapiro, Nathan E.	N.Y.	Shelhorse, George Walter	Pa.
Shapiro, Nelson Hirsh	Md.	LL.B. 1951, The George Washington University	Pa.
B.E. 1948, Johns Hopkins University		Shelles, Francis Joseph	Pa.
Shapiro, Phyllis Rhoda	N.Y.	Shelly, George William	Pa.
Shapiro, Sandra Ruth	D.C.	A.B. 1951, The George Washington University	Pa.
Shapley, Charles Leland	Va.	Shelly, Herbert Hunter	Pa.
Shapson, H. Bernard	Colo.	A.B. in Ed. 1939, The George Washington University	Pa.
LL.B. 1951, University of Colorado		Shelly, Ronald George	Pa.
Sharkey, Dorothy Cecilia	Pa.	Shelton, Catherine Mary	Pa.
A.B. 1951, Seton Hall College		Shelton, Eugene Rose	Pa.
Sharkey, James Francis	Pa.	Shelton, Gerard Edna	Pa.
LL.B. 1951, The George Washington University		A.B. 1949, College of William and Mary	Pa.
Sharkey, Walter Joseph	R.I.	Shenker, Shirley Lebeson	Pa.
A.B. 1951, Providence College		A.B. 1949, The George Washington University	Pa.
Sharon, John Harford	N.J.	Shenko, William Edward	Pa.
A.B. 1949, Princeton University		B.S. 1950, North Dakota Agricultural College	Pa.
Sharon, William Samuel	Pa.	Shepard, Joe Willwerth	Pa.
Sharp, Samuel Leonard	Md.	Shepard, Robert Stanley	Pa.
LL.M. 1952, J.D. 1954, University of Warsaw		B.S. 1950, The George Washington University	Pa.



### Students Registered

545

<i>Students Registered</i>			<i>545</i>
Shepherd, Bette Adkins A.B. 1946, University of North Carolina	Md.	Shiner, Joe W. B.S. in Ed. 1951, Central State College	Okl.
Shepherd, Francis William B.M.E. 1949, College of the City of New York	Md.	Shinert, Gregory Eldridge Shinkus, Daniel Francis B.M.E. 1951, The George Washington University	Ark. Mass.
MS in M.E. 1950, University of Minnesota		Shipley, Frederick Herman, Jr. B.S. in Med. 1950, University of Nebraska	Nebr.
Shepherd, George Martin, Jr.	Md.	Shipley, Charles Waldron A.B. 1942, Shepherd College	W Va.
Sheppard, Helen Nevins	Md.	Shipley, George Edward	D.C.
Shepp, Walter, Jr.	D.C.	Shipley, William Stanton	D.C. Mass.
Shepard, Virginia Mae A.B. 1952, A.M. in Govt. 1951, The George Washington University	D.C.	Shipman, Harvey Andrew A.B. in Ed. 1951, The George Washington University	
Shelton, Lee Claiborne B.S. in F.F. 1947, Duke University	D.C.	Shipman, Karl Waldo	Mass.
Sherman, Charlotte Rosslyn	D.C.	Shreeve, James Jacob, Jr.	D.C.
Sherman, Robert Miller	D.C.	Shreeve, William Cluff	D.C.
B.E.E. 1945, Clarkson Institute of Technology	Tex.	Shuck, Gilbert LaRue	Pa.
Sherman, Sylvester Gaston	N.Y.	Shuck, Grace Etta	D.C.
Sherman, William Robert BS in F.F. 1946, University of Wisconsin	D.C.	Shurley, James Alexander A.B. 1941, Clemson College	S.C.
Sherr, Harry B.P.A. 1949, College of the City of New York	Va.	Shirley, Reginald Douglas Shisado, Dennis Hironobu	N.Y. D.C.
A.M. 1950, American University	N.Y.	Shiver, David Hawley	Ark.
Sherrill, Laverne Herman B. Teacher, The George Washington University	Okl.	Shoaf, Ann Adams Shockey, Evelyn Louise	Tenn. D.C.
Sherwin, Wiley S. A.B. 1951, The George Washington University		BS 1946, University of Virginia AM in Ed. 1951, The George Washington University	
Sherwin, William Windsor	Va.	Shokley, Mary Louise	Va.
University	Va.	Shostetter, Charles Erwin	Pa.
Sheward, James Stock A.B. in Govt. 1947, The George Washington University		Shostemaker, Randall, Jr.	Va.
Shewell, Joseph B.S. 1948, Central Michigan College	Va.	Shostemaker, Robert Frank	D.C.
of Education		Shostemaker, Thomas Edison	D.C.
Shew, George Marie A.B. 1948, College of Wooster		Shostemaker, Winslow Condie	Pa.
Shewmaker, Susser W. B.S. 1945, University of Maryland	Mich.	Shoshorus, Florence Irene A.B. 1954, University of Nebraska	Nebr.
Shew, Jane Harriett A.B. 1948, University of Maryland	Pa.	Shore, Frederick Lombard	Pa.
Shew, Lydia Gene A.B. 1948, University of Maryland	Md.	Shore, Parkhurst Alan B.S. 1949, The George Washington University	Md.
Shew, Anna Owen A.B. 1948, Bowenwater College	Calif.	Short, William B.S. 1951, American University	N.Y.
Shew, Helen Moreland A.B. 1948, The George Washington University	Va. Md. Va.	Shostek, Robert A.B. 1945, The George Washington University	Md.
Shew, Mary B.S. 1948, Wilson Teachers College	Iowa	Shouse, William James A.B. in Govt. 1950, The George Washington University	Ky.
Shew, William George B.S. 1948, Wilson Teachers College	D.C.	Showalter, David Norman, Jr.	Md.
Shew, Charles LeRoy B.S. 1948, Wilson Teachers College	D.C.	Showalter, Joanne Fay	Va.
Shew, John Henry B.S. 1948, University of Hawaii	D.C.	Showalter, Ruth Howell B.S. 1946, Radford College	Md.
Shew, John Henry B.S. 1948, University of Hawaii	D.C.	Shown, Richard Lyle	Va.
Shew, John Henry B.S. 1948, University of Hawaii	D.C.	Shows, Anne Katherine	Miss.
Shew, John Henry B.S. 1948, University of Hawaii	D.C.	Shreeve, Judith Hall	Va.
Shew, John Henry B.S. 1948, University of Hawaii	D.C.	Shreeve, Winona Jacqueline	D.C.
Shew, John Henry B.S. 1948, University of Hawaii	D.C.	Shriver, Jean Elizabeth	D.C.
Shew, John Henry B.S. 1948, University of Hawaii	Hawaii	Shropshire, Walter Allen, Jr.	D.C.
Shew, John Henry B.S. 1948, University of Hawaii	Hawaii	Shrook, Richard Fuller A.B. 1949, University of North Carolina	Md.
Shew, John Henry B.S. 1948, University of Hawaii	Conn.	Shukate, Caroline Louie B.S. in E.D. 1947, Pennsylvania State Teachers College, Shippensburg	Pa.
Shew, John Henry B.S. 1948, University of Hawaii	Ohio	Shugart, Barbara Tanganyari	W Va.
Shew, John Henry B.S. 1948, University of Hawaii		Shuart, Elizabeth Wise A.B. 1947, Ohio University	W Va.
Shew, John Henry B.S. 1948, University of Hawaii		Shull, Owen Clay	Va.
Shew, John Henry B.S. 1948, University of Hawaii		Shull, Shirley Anne	D.C.

Shullenbarger, John Albert	D.C.	Silvert, Blanche Jacoby
Shulman, Flora Janice	D.C.	Simmons, Anne Ward
Shultz, Gracia Marie	D.C.	A.B. 1948, University of Maryland
B.F.A. 1948, Syracuse University		Simmons, Boyd K.
Shultz, Edna Longstreth	D.C.	A.B. 1950, Brigham Young University
A.B. 1926, Drake University		Simmons, Earle Mitchell
A.M. 1948, State University of Iowa		Simmons, John Thomas, Jr.
Shuman, Irwin	D.C.	Simmons, Mildred Cota
Shumway, Elizabeth Rita	Va.	Simmons, Patricia Ann
Shupe, Anthony Pierce	D.C.	A.B. 1947, Bob Jones University
Shuster, Alvin	D.C.	Simms, Matthew C.
Shuster, Jacob	N.Y.	Simon, Charles Francis
B.M.E. 1949, College of the City of New York		B.S. 1942, I.L.B. 1948, University of Wisconsin
Shuster, John Charles	D.C.	Simon, Edna May
Shuster, Ronald Lowell	Ohio	Simon, Leonard Eli
A.B. 1951, Ohio State University		B.S. in B.A. 1948, Ohio State University
Shutz, Byron C.	Mo.	Simon, Melvin
A.B. 1942, University of Kansas		Simon, Zelma Charmé
Sibold, George Grady	Va.	Simonsen, Esther
B.S. 1950, University of North Carolina		Simonsen, Melvin James
Sibul, Allan	D.C.	A.B. 1941, North Central College
Sidle, Thelma Blanche	Ala.	Simonton, Lawrence Joseph
Siebert, Patricia Anne	Argentina	Simovic, Helen Elaine
Siegel, Abraham	Calif.	Simpkins, Thomas Shaw
B.S. 1947, College of the City of New York		Simpson, Ann Brown
J.D. 1950, The George Washington University		Simpson, Charles Frederick
Siegel, Curtus Owen	Va.	B.S. 1946, Wake Forest College
Ph.B. 1933, University of Wisconsin		Simpson, Donald Fletcher
Siegel, Harry M.	D.C.	Simpson, Ethel I.
Sieger, Julian Lee	Md.	B.S. in Ed. 1939, M.S. 1947, Fort Hays Kansas State College
Siegel, Myra Marcia	D.C.	Simpson, Harold Edward
Siems, Henry Gerard Frederick	Md.	A.B. 1936, A.M. 1946, University of North Carolina
A.B. 1941, Johns Hopkins University		Simpson, James William, Jr.
Sierra, Maclovio	D.C.	Simpson, Janet
Singers, Muriel Colling	Nev.	Simpson, Joseph
Siggins, Gene Paul	D.C.	A.B. in Govt. 1940, The George Washington University
A.B. 1941, University of Maryland		Simpson, Leo Smith
Sigler, James Robert	D.C.	A.B. 1947, The George Washington University
Sigworth, Walter Brown	Va.	Simpson, Margaret Caroline
A.M. 1951, University of Pennsylvania		Simpson, Mercedes Berry
Sikorsky, Albert	D.C.	A.B. 1931, Belmont College
Silberman, Louis B.	Md.	Simpson, Nathaniel Edward
B.S. 1947, College of the City of New York		Simpson, Richard Donald
Silberman, Tom Albert	D.C.	B.B.A. 1948, Westminster College
Sileo, Michael Anthony, Jr.	N.J.	Simpson, Richard Lee
Silva, Aurora Valle	Brazil	Simpson, Robert Ellsworth
Silver, Elizabeth Phelps	D.C.	Simpson, Rove Coker
Silver, Richard A.	Mass.	A.B. 1942, Meredith College
A.B. 1943, Boston University		A.M. 1952, The George Washington University
Silverberg, Stanley Melvin	D.C.	Simpson, Thompson James
B.S. 1948, The George Washington University		B.E. in E.I. 1948, Tulane University
Silverman, Betty Zelma	D.C.	Sims, Donald Bradford
Silverman, David	D.C.	Sims, Frank, Jr.
Silverman, Ely	N.Y.	Sinauer, Ernst Maxwell
A.B. 1946, New York University		A.B. 1930, Cornell University
B.S. 1947, Columbia University		Sinclair, William Carter
Silverman, Larry	N.J.	Sisco, Pilar Asuncion
Silverman, Maurice Bernard	Conn.	A.B. 1951, University of the Philippines
A.B. 1949, The George Washington University		Sincoff, Ellen Barbara
Silverstein, Bennett Lyons	N.J.	Sing, Milton Lee
B.S. 1940, Webb Institute of Naval Architecture		Singel, Robert Duane
M.S. 1951, Massachusetts Institute of Technology		A.B. 1942, University of Wisconsin
Silverstein, Leonard	N.Y.	Singer, Allen Milton
A.B. 1950, Hunter College		Singer, Dena Beth



# Students Registered

547

Singer, Lawrence Robert B.S. 1950, The George Washington University	D.C.	Skoda, Charles Thomas A.B. 1951, University of Pennsylvania	N.Y.
Singer, Markus Morton B.C.S. 1939, New York University	D.C.	Skorka, Irving B.E.E. 1950, College of the City of New York	D.C.
Singh, Har Bhajan Singer, Charles Owen Singer, Cary Bryan, Jr. A.B. 1951, University of Maryland	India D.C. Md.	Skougaard, Robert Ivar Skove, James Rush B.S. 1950, United States Military Academy	D.C. Va.
Singleton, Leroy J. A.B. 1941, University of Utah	Va.	Skrable, Paul Louis Skuska, Elaine Marie B.S. 1945, University of Nebraska	Iowa Nebr.
Singleton, Marjorie Christensen B.S. 1949, The George Washington University	Md.	Skutca, Lillian Lorraine Slack, Richard Lee B.S. 1950, West Virginia Wesleyan College	Md. W.Va.
Sink, Alice Frances B.S. 1943, Madison College	D.C.	Slacum, Gordon Gerald Slama, Chester Charles Slattery, Hyett Harold Slaughter, Jerry Lee Slaughter, William Vanuxem A.B. 1936, Princeton University L.L.B. 1950, LaSalle University	Md. Va. Md. Arl. Va.
Sinott, Joseph A. Singer, Iwan Singer, Frank Carl Singer, Marvin Phillip Singer, Helene Carole Singer, Milton B.B.A. 1945, College of the City of New York	Mass. D.C. D.C. Ohio D.C. D.C. N.Y.	Slaven, Goldie Mae Slavin, Leon Jacob Slayton, Florence Margaret A.B. 1949, University of Oklahoma Slayton, William Taft Slenker, Norman Frederick A.B. 1951, Ohio Wesleyan University Slinkard, William Troy Slown, Sheila Mary Sloane, Edward Frederick A.B. 1950, The George Washington University	W.Va. N.Y. Wyo. Md. Ohio Md. Md. Md.
Sink, Hoke Morrish B.S. 1941, United States Naval Academy	D.C.	Sloat, Halbert Maitland, Jr. Slate, Mosley Jay Slotemaker de Bruine, Maria Wilhelmina	D.C. N.Y. Netherlands
Sink, Elmer Irvin A.B. 1948, Johns Hopkins University	Md.	Slotower, Ione Phoebus Slotower, John Henry Sloulin, Helen Elizabeth B.S. in Ed. 1947, Wisconsin State Teachers College, La Crosse	Md. Md. Wis.
Siler, Clifford Edward A.B. 1941, Catholic University of America	N.Y.	Slusher, Sarah Velma Sly, Robert Danham Smale, Bernard Clair B.S. 1949, University of Pittsburgh	Okla. Md. Pa.
Silvers, Edward Samuel A.B. 1950, The George Washington University	Philippines N.J.	Small, Albert Harvey A.B. 1941, Brooklyn College A.M. 1948, American University	N.Y.
Silvers, Lucille Edwards Siler, Charles Richard Siler, Clifford E. Singer, Walter Hoersch B.S. 1946, United States Naval Academy	N.J. Md. D.C. D.C.	Small, Donald Small, Graver Lee A.B. 1949, University of Maryland	D.C. D.C.
Silvers, Edward Samuel A.B. 1950, The George Washington University	N.J.	Small, Howard Ashby Small, Paul Smallwood, Eugene Fenton Smart, Claudia E. Smathers, Spurgeon Ellis B.S. 1946, Wake Forest College	W.Va. Md. Md. D.C. D.C.
Silvers, Lucille Edwards Siler, Charles Richard Siler, Clifford E. Singer, Walter Hoersch B.S. 1946, United States Naval Academy	N.J. Md. D.C. D.C.	Smalley, David A.B. 1946, University of California at Los Angeles	Va.
Silvers, Edward Samuel A.B. 1950, The George Washington University	N.J.	Smellowsky, Stephen James Smeltzer, Karl Christian Smeroskie, Dorothy Marcella Smieszek, Joseph Francis B.S. 1941, Boston College	Pa. Mich. Pa. Mass.
Silvers, Lucille Edwards Siler, Charles Richard Siler, Clifford E. Singer, Walter Hoersch B.S. 1946, United States Naval Academy	N.J. Md. D.C. D.C.	Smith, Adabelle Smith, Archie Lee Smith, Arthur Basil Smith, Arvilla Ina Smith, Audrey Cornelia	D.C. D.C. D.C. Pa. D.C.



Smith, Barbara Ann	D.C.	Smith, Harold Dwayne	
Smith, Bernard Charles	Ohio	Smith, Harvey	
Smith, Betty Jane W.	D.C.	A.B. 1947, Syracuse University	D.C.
Smith, Carolyn Mary	D.C.	L.L.B. 1950, New York University	
Smith, Casper Hayden	Okla.	Smith, Herbert Willard	
Smith, Catherine Maine Waters	Pa.	A.B. in Govt. 1951, The George Washington University	Va.
A.B. 1950, Wilkes College	Va.	Smith, Hudgens Roberts	Md.
Smith, Ceale Frazier	Md.	B.S. 1942, Georgetown University	N.C.
Smith, Charles Earl	D.C.	Smith, J. Gordon	
Smith, Charles Nesbitt	W.Va.	Smith, Jacob Paul	
Smith, Charles William		Smith, James Donald	
A.B. 1950, West Virginia University	Va.	A.B. 1941, University of Omaha	D.C.
Smith, Charles William		A.M. 1944, Western Reserve University	Md.
A.B. in Govt. 1951, The George Washington University	Md.	Smith, James Joseph	
Smith, Clara Louise	Va.	B.S. 1950, Hofstra College	
Smith, Claudia Elizabeth	Ark.	Smith, Jennings Talbot	Md.
Smith, Clyn Tolbert	Md.	A.B. in Govt. 1950, The George Washington University	D.C.
Smith, Daniel Elliot		Smith, Joan Marlowe	Va.
B.S. in Ch.E. 1945, University of Rochester	Ariz.	Smith, John Francis	
Smith, Darrell Fenwick	D.C.	Smith, John Francis	
Smith, Daniel Charles	D.C.	A.B. 1951, Emory University	
Smith, David Bushnell		Smith, John Raymond	D.C.
A.B. 1951, The George Washington University	D.C.	B.S. in Ed. 1950, Maryland State Teachers College, Frostburg	
Smith, Delos Grosvenor, Jr.		Smith, Kendall Owen	Va.
A.B. 1950, Yale University	Va.	A.B. 1951, The George Washington University	
Smith, Dolores Fahy	Md.	Smith, Kirk Brannan	
Smith, Donald David	Md.	Smith, Lawrence McIntire	Md.
Smith, Dorothy	Va.	A.B. 1949, Middlebury College	
Smith, Edith Ann		Smith, Lee Donald	Va.
A.B. 1941, Arizona State College	Pa.	B.E.E. 1949, The George Washington University	
Smith, Edgar Thomas		Smith, Luther Earl	Md.
B.S. 1951, Pennsylvania Military College	Va.	A.B. in Govt. 1951, The George Washington University	D.C.
Smith, Edward		Smith, Margaret Eucestine	Va.
B.B.A. 1949, University of Texas	D.C.	Smith, Marvin Franklin	
Smith, Edward Anthony	Md.	Smith, Mary Ann	D.C.
Smith, Edward Newman		Smith, Mary Louise	
A.B. 1947, Middlebury College	Va.	B.S. 1926, University of Chicago	
Smith, Edward Polk Tatum, Jr.		Smith, Mildred Jonathan	N.Y.
B.S. in E.E. 1941, United States Naval Academy		A.B. 1945, Bryn Mawr College	
L.L.B. 1950, Washington and Lee University	Va.	Smith, Nancy Joanne	
Smith, Elizabeth Ann	Mo.	A.B. 1948, Hobart College	
Smith, Elton O.		Smith, Natalie Harriet	
A.B. 1950, Drury College	Tex.	A.B. 1951, The George Washington University	
Smith, Estelle		Smith, Noah Mack	
A.B. 1928, A.M. 1918, Sam Houston State Teachers College	Md.	Smith, Patricia Joyce	
Smith, Eugene Vincent	Va.	Smith, Patricia Marie	
Smith, Frances Caldwell		Smith, Paul Pearce	
A.B. 1935, College of William and Mary	Va.	Smith, Philip Hillyer, Jr.	
Smith, Frank Curtis	Md.	A.B. 1947, Harvard University	
Smith, Frank White	D.C.	Smith, Ralph Edwin	
Smith, Frederick Lovick	Md.	Smith, Raymond Clarence	
Smith, French Crawford	D.C.	Smith, Raymond Harold	
Smith, George Francis		Smith, Rebecca Yone	
A.B. in Govt. 1950, The George Washington University	Ill.	Smith, Rebecca Olive	
Smith, George Peter		Smith, Richard Norman	
B.M.E. 1950, Cornell University	Fla.	A.B. 1950, Swarthmore College	
Smith, George Wright	Ohio	Smith, Richard Thomas	
Smith, Grady Fay	N.Y.	Smith, Robert Claude, Jr.	
Smith, Harold		B.S. 1952, Randolph Mason College	
A.B. 1951, The George Washington University	Md.	Smith, Robert George	
Smith, Harold Calmes, Jr.		B.S. 1948, University of Denver	
A.B. 1950, The George Washington University		Smith, Robert Louis	
		Smith, Robert Ross	
		Smith, Robert Sams	

# Students Registered

549

Smith, Robert Tynes III A.B. 1948, The George Washington University	Va.	Snyder, Donald Kenneth A.B. in Govt. 1949, The George Washington University	Va.
Smith, Robert Wayne		Snyder, Earl A. A.B. 1939, LL.B. 1947, Indiana University	Va.
Smith, Ronald Walter	Pa.	Snyder, Emmor Frederick	Ohio
Smith, Sholner B.S. 1941, Oklahoma Agricultural and Mechanical College	Md.	Snyder, Ernest Mayo	N.J.
Smith, Stuart Mayoh		Snyder, Esther Anne	D.C.
Smith, Stuart Stump	D.C.	Snyder, Helen Elaine	Va.
Smith, Thomas Benjamin	D.C.	Snyder, James Russel	Md.
Smith, Thomas Gerald	Ga.	Snyder, Joseph Cantwell B.S. 1930, United States Naval Academy	D.C.
Smith, Thomas Lewis	Va.	Snyder, Mark Curtis	Md.
Smith, Timothy Edward A.B. 1927, Swarthmore College	Md.	Snyder, Mary Elizabeth	N.J.
Smith, Verna Emily A.M. 1916, New Jersey State Teachers College, Upper Montclair		Snyder, Morton Leonard	D.C.
Smith, Walter James A.B. 1951, The George Washington University	D.C.	Snyder, Saylor Charles, Jr.	Pa.
Smith, Walter William B.S. 1950, University of Denver	D.C.	Snyder, Velma Hall	D.C.
Smith, Warren Webster A.B. in Govt. 1950, The George Washington University	N.C.	Sobel, Bernard George	Pa.
Smith, William Leroy A.B. 1941, A.M. 1947, Syracuse University	D.C.	Sobel, Annette	D.C.
Smith, William Henry A.B. 1941, A.M. 1947, Syracuse University	Colo.	Sobosky, Emily Agnes Ph.B. 1936, DePaul University	Ill.
Smith, William Oscar, Jr.	N.Y.	Socular, Marilyn	D.C.
Smith, William Parck B.E.B. 1950, Northeastern University	Va.	Socular, Milton Joseph B.S. 1950, University of Maryland	D.C.
Smith, William Robert B.E.B. 1950, Northeastern University	Va.	Sodd, Mary Ann	D.C.
Smith, Donald Joseph B.E.B. 1950, Northeastern University	D.C.	Soderberg, Ralph A.	Va.
Smith, Wanda Marie B.E.B. 1950, Northeastern University	Mass.	Soffen, Marvin Clarence B.C.E. 1949, Cornell University	D.C.
Smith, Clyde Elmer B.E.B. 1950, Northeastern University	Mich.	Soffen, Rachel P. B.S. 1952, University of Pennsylvania	D.C.
Smith, Melvin Irving B.E.B. 1950, Northeastern University	Pa.	Sohier, Katherine Buden	D.C.
Smith, Pauline Zoë B.S. 1948, The George Washington University	D.C.	Sohn, Florence Bert	D.C.
Smith, Pauline Zoë B.S. 1948, The George Washington University	D.C.	Sohr, William Charles	Md.
Smith, Constantine Joseph B.S. 1948, The George Washington University	Pa.	Sokol, Stephen I. A.B. 1943, Bucknell University	D.C.
Smith, Robert B.S. 1948, The George Washington University		Sokolowsky, William A.B. 1951, The George Washington University	N.Y.
Smith, Carl Miller, Jr. B.S. 1942, University of Maine	D.C.	Soley, Edna Constance	Mass.
Smith, Ross Edward B.S. in Ed. 1950, Wittenberg College	Ill.	Solis, Arnold	D.C.
Smith, Andrew Beryl, Jr. B.S. in Ed. 1950, Wittenberg College	Pa.	Solis, Martin, Jr.	Ill.
Smith, Frank Louise A.B. 1951, Park College	Md.	Sollins, Nancy Thurber A.B. 1946, The George Washington University	Md.
Smith, George Lee, Jr. A.B. 1951, Park College	D.C.	Sollitt, William	Kans.
Smith, Vincent Paul A.B. 1951, Park College	Va.	Solmizky, Eleanor Inez	Md.
Smith, Fletcher A.B. 1951, Park College	Ohio	Solomon, Alvin Lee	D.C.
Smith, Charles Wellington A.B. 1952, Morris Harvey College	Mo.	Solomon, Edward Jr. A.B. 1949, Pennsylvania State College	Pa.
Smith, Ernest Walter A.M. 1940, West Virginia University	N.Y.	Solomonson, Carl Edward B.S. 1950, Western Reserve University	Ohio
Smith, Paul David A.M. 1940, West Virginia University	Wash.	Solt, Samuel James	Md.
Smith, Franklin Clifford A.M. 1940, West Virginia University	Md.	Soltow, Dewey Rudolph	Va.
Smith, Robert C. A.M. 1940, West Virginia University	W.Va.	Soltow, William Donald, Jr. B.M.E. 1948, Rensselaer Polytechnic Institute	Md.
Smith, Robert Kenneth A.M. 1940, West Virginia University	Va.	Somers, Nelson Roy	Va.
Smith, Thomas Lucy A.M. 1940, West Virginia University	D.C.	Sommer, John Gustave, Jr.	D.C.
Smith, Lawrence A.M. 1940, West Virginia University	Utah	Sommer, Lilian	Switzerland
Smith, John Garcia A.M. 1940, West Virginia University	D.C.	Sommers, Diane Kallin A.B. 1951, Stanford University	Va.
Snyder, Bernice Martella A.M. 1940, West Virginia University	D.C.	Sondheim, Bernice	D.C.
Snyder, Charles Edmund A.M. 1940, West Virginia University	N.Y.	Songer, Joseph Richard A.B. 1951, Eastern Nazarene College	Md.
	D.C.	Sonnabend, Joel Simon	Md.
	N.D.	Sonnenberg, Herbert Jerome	Md.
	N.C.	Sonner, Isadore Leon	La.
	Mich.	Sosabiboth, Sahadiah	D.C.
		Sopchick, Dorothy Mae	D.C.



Sopka, Stephen Joseph	Pa.	Speevack, Harold Lynn	Ohio
B.S. 1949, University of Scranton		B.S. 1949, Ohio State University	D.C.
Sorensen, Paul Kenneth	Pa.	Speiser, Rose Catherine	Neb.
Sorlie, Irene Dorothy	Va.	Spellman, Clemens Eugene	
A.B. 1948, Rocky Mountain College		B.S. in Arch. Eng. 1939, University	Calif.
Sorrell, Frederick Maurice	Va.	of Nebraska	D.C.
Sorrell, Richard Alexander	Md.	Spellman, Robert James	Va.
Soshow, William	Pa.	Spencer, Carmen Delano	Va.
B.S. 1951, Philadelphia College of		Spencer, Maurice Vernon	Mont.
Pharmacy and Science		Spencer, Ray	
Soskey, Norman Walter	Ohio	Spencer, Richard Overton	
Sosnowik, Lewis	D.C.	Spencer, Vernon Frederick	Md.
Soto, George Benjamin, Jr.	D.C.	A.B. 1942, Montana State University	
B.S. 1954, Southwest Texas State		Sperberg, Franklyn Robert	D.C.
College		B.S. 1944, United States Naval	N.Y.
Soucek, Frank James	Va.	Academy	
B.E.E. 1948, The George Washington		Sperling, Arnold	
University		Sperling, Samuel	Va.
Sourber, Charles Henry, Jr.	Pa.	A.B. 1946, M.S. in Ed. 1939, College	D.C.
A.B. 1949, Gettysburg College		of the City of New York	D.C.
South, Harold Edward	Md.	Spessard, Callahan Michael, Jr.	D.C.
Southall, Russell Melvin	Va.	Spesser, Rose Catherine	D.C.
Southwell, Paul M.	D.C.	Spivack, Herbert	N.Y.
A.B. 1940, LL.B. 1952, The George		Spicer, Robert Francis	Calif.
Washington University		B.S. 1951, Georgetown University	Va.
Sowder, Raymond Curtis	W.Va.	Spiegler, Robert Lee	D.C.
A.B. 1949, West Virginia University		Spies, Howard Lester	D.C.
Sowers, Elizabeth Jane	D.C.	Spies, Mark Franklin	D.C.
Sowell, John Broadus	D.C.	Spiker, Conradine Leigh	D.C.
B.M.E. 1948, Georgia Institute of		Spiker, Donald Aye	D.C.
Technology		Spillane, Lester Walter	D.C.
Spaeth, Sister Mary Theodore	Pa.	Spillman, Niki	N.Y.
Spauld, Giles Henry	Md.	Spinner, Donald Burke	
Spain, Clara	Del.	Spitzer, Lillemor Elena	Md.
Spain, Harold Louis	Okla.	Spivack, Jack	
A.B. 1938, University of Oklahoma		B.S. 1949, Long Island University	
Spain, Hilary David	N.C.	Spivey, Mattie Rae	Pa.
Spalding, James Spencer, Jr.	D.C.	B.S. 1943, Texas State College for	
Spangle, Clarence Wilbur	Va.	Women	N.Y.
B.S. 1945, Yale University		M.S. 1947, Iowa State College	
Spann, George Klepfer	Md.	Spock, John Paul	Md.
Sparker, John	Tex.	A.B. 1939, University of Maryland	D.C.
B.S. 1941, Texas Agricultural and		Spolander, Doris Virginia	Va.
Mechanical College		A.B. 1936, Adelphi College	Calif.
Sparks, Lemuel Columbus, Jr.	Md.	Sponheim, Carol Elaine	
A.B. 1940, Roanoke College		Spoutis, Laimonis	
B.D. 1941, Lutheran Theological		Sprague, Gerald Emerson	D.C.
Seminary		Sprawcow, Phillip Temofei	
Sparks, Morris Murray	N.Y.	Springer, Curtis Howe	
Spatz, Murray	N.Y.	A.B. 1949, University of Alabama	
B.S. 1950, The George Washington		Springer, Herbert	Pa.
University		B.B.A. 1951, University of New	Wisc.
Spatz, Sol	N.Y.	Memo	
B.E.E. 1950, Pratt Institute		Sprinkle, Julia Louise	
Spaulding, John Henry	D.C.	Spruwell, Robert Roy	
A.B. 1947, The George Washington		A.B. 1948, University of Denver	Tel.
University		Spyropoulos, Constantine	
Spaulding, Rex Kibler	D.C.	B.S. in C.E. 1947, University of	Tel.
Spear, Harvey Milton	R.I.	South Carolina	
A.B. 1942, Brown University		Squires, Ernest Myrl	
LL.B. 1948, Harvard University		A.B. in Govt. 1949, The George	
A.M. in Govt. 1949, The George		Washington University	
Washington University		Squires, Nora Anderson	
Spearbeck, Edward Dever	Va.	A.B. in Govt. 1949, The George	
Spector, George	N.Y.	Washington University	
B.C.E. 1942, M.C.E. 1947, Brooklyn		A.M. 1950, University of Geneva	
Polytechnic Institute		Switzerland	
Spector, Samuel Ira	N.Y.	Srenack, Stanley Edward	
Spector, Sharon Madeline	Md.	Sroka, Edward Andrew	
Spector, William Samuel	Wis.	B.S. in P.E. 1941, Purdue University	
B.S. 1950, A.M. 1951, The George		Staar, Jadwiga Maria	
Washington University		Stacey, Truman	
Speer, William Thomas	Md.	Ph.B. 1946, University of Detroit	



# Students Registered

551

Stachniewicz, Gloria Patricia A.B. 1946, University of California	Calif.	Starr, Selig A.B. 1940, Brooklyn College	N.Y.
Stachowak, Edward Joseph B.S. 1951, University of Pittsburgh	Pa.	A.M. 1951, The George Washington University	
Stachura, Wendy Sue A.B. 1928, Coe College	N.Y.	Stathopoulos, Jeannette	D.C.
Stafford, Mary Elizabeth Stafford, Richard Lyman	Iowa	Statland, Edward Morris	D.C.
Stafford, Walter Edward	Calif.	Statts, Helen Anna	D.C.
Stafford, William Thomas	Va.	Stauffer, James Elwood	Calif.
Stall, Emma Jean	D.C.	A.B. 1940, Franklin and Marshall College	
Starr, Anson Hutchinson	Md.	Stautopoulos, Angelo	Mass.
Starr, Robert Bruce	Va.	Staver, Evelyn June	Va.
B.S. 1941, United States Naval Academy	Mich.	Steadman, Frank McNulty, Jr.	Mich.
Starr, Robert William A.B. 1948, Gettysburg College	Pa.	B.M.E. 1946, Syracuse University	
Starr, Seymour		Steady, Helen Elizabeth	N.H.
B.S. 1946, University of Miami	D.C.	Stearman, David Lester	Md.
Starr, Joy Ann		A.B. in Govt. 1951, The George Washington University	
Starr, Israel	D.C.	Stearn, Edna Vivyan	Canada
Starr, Harry	Md.	Stecker, Donald Max	Ohio
B.S. 1937, Oklahoma Agricultural and Mechanical College	Md.	Stedman, Melvern Vance	Va.
Stallings, James Henry, Jr. A.B. 1948, Duke University	D.C.	Steel, Mildred Elizabeth	Va.
B.S. 1946, Northwestern University	Tex.	B.S. 1951, Longwood College	
Stambaugh, Harold Eugene	Pa.	Steedman, Joseph Edward	Md.
B.S. 1948, University of Pennsylvania	Pa.	Steele, Alan E.	N.Y.
Stamen, Harry Clay	Pa.	B.M.E. 1949, New York University	
A.B. 1948, The George Washington University		Steele, Betty Jo	Va.
Stamper, Charles William	D.C.	Steele, Oscar	Ill.
Stamper, William Clark	D.C.	Steele, Varian	N.Y.
Stander, James McNeill, Jr.	Va.	M.E. 1938, Cornell University	
Stander, Maxwell	D.C.	Steele, Walter Edward	D.C.
B.S. 1945, College of the City of New York	N.Y.	Steelman, Albert T., Jr.	Md.
Stanfield, Florence Virgene	Ohio	B.E.E. 1948, University of Delaware	
Stanley, William Herman	D.C.	Steele, Anastasia Crisp	D.C.
Stanley, Arnold George Edwin	Va.	B.S. 1948, Johns Hopkins University	
A.B. 1946, University of Maryland	Ga.	Steele, Arthur D.	N.C.
Stanley, Nikola Dragusha	Yugoslavia	A.B. 1945, Flon College	
Stanley, Grace Margaret	Va.	Ed.M. 1942, University of North Carolina	
Stanley, Wayne Madison	Calif.	Steers, Frank Broadbent, Jr.	D.C.
Stanley, Charles Leroy	D.C.	A.B. 1938, American International College	
B.S. 1940, Washington State College	Wash.	Steers, Robert Leland	W.Va.
Stanley, Robert Alexander	D.C.	A.B. 1949, Marietta College	
Stanley, Margaret Josephine	Va.	Steller, Martin R.	S.D.
Stanley, LeRoy Brown	N.J.	Stellay, Richard Carlisle	Va.
Stanley, Esther Foster	D.C.	A.B. 1941, Roanoke College	
A.B. 1946, University of Southern California	D.C.	Steyer, Kenneth Meritt	Va.
M.A. 1948, University of Arkansas	Va.	Stein, Esther R.	D.C.
A.B. 1948, Cornell University	D.C.	Stein, Helen Louise	D.C.
M.P.A. 1946, New York University	D.C.	Stein, Julian Ulman	D.C.
Stacy, William Ruth	D.C.	B.S. in P.E. 1950, The George Washington University	
B.S. 1946, Michigan State College	Md.	Stein, Norman Albert	D.C.
A.B. 1947, Western Maryland College	D.C.	Stein, Norman Illner	Md.
Stacy, Jesse Lee	N.Y.	B.S. in M.E. 1941, State University of Iowa	
B.S. 1945, Radford College	D.C.	Stein, Paula M.	D.C.
A.B. 1942, The George Washington University	N.Y.	Stein, Salma	D.C.
Stear, Myron Maffin	D.C.	Stein, Stefan Martin	N.Y.
		A.B. 1948, Cornell University	
		Steinberg, Edleen Theresa	Va.
		B.S. 1952, Western Teachers College	
		Steinberg, Jules Henry	N.Y.
		B.S. 1948, Pennsylvania State College	
		Steiner, Otto Thomas	Md.
		A.B. 1946, The George Washington University	
		Steiner, William	D.C.
		Stein, Helen Louise	Ohio
		Stein, Eugene Beasdel	Pa.
		A.B. in Govt. 1949, The George Washington University	

Stelck, William Ardell	Iowa	Sterna, Mabel	D.C.
A.B. 1949, Drake University		Sterz, Alice Virginia	Canada
A.M. 1950, The George Washington University		A.B., B.S. in Ed. 1946, University of Wittenberg	MD
Stelger, John A.	N.J.	Stetson, John Hewes	D.C.
B.S. 1931, C.E. 1934, Newark College of Engineering		A.B. 1950, University of Maryland	
Stell, Jack Powell	D.C.	Stetzer, Donald Foster	Va.
A.B. 1939, Rice Institute		B.S. 1949, University of Chicago	D.C.
A.M. 1943, University of Houston		Steucke, Erwin Wallace, Jr.	Va.
Stell, William Martin	Va.	Steuer, Arthur	
A.B. 1943, The George Washington University		Stevens, Albert Henry	Va.
Stemmermann, Walter William	Md.	B.S. 1947, Pennsylvania State College	MD
B.B.A. 1937, College of the City of New York		Stevens, Charles David	D.C.
Stempson, Oscar William, Jr.	Minn.	Stevens, Charles White, Jr.	
Stenger, Howard William	D.C.	Stevens, Ernest Evans	
Stepanek, John James	Ill.	B.S. 1910, United States Naval Academy	N.Y.
Stephan, Elsie Gertrude	Ill.	A.M. in Ed. 1951, The George Washington University	Va.
A.B. in Ed. 1951, The George Washington University		Stevens, Glenn Bradley	Mass.
Stephens, Alan Richard	Ill.	Stevens, Jean Johnston	MD
Stephens, Aline	D.C.	Stevens, Joan Isabel	
Stephens, Ford	Va.	Stevens, John Cameron	
Stephens, Isabel Allred	Md.	Stevens, Joseph Leopold	
Stephens, John, Jr.	Fla.	J.D. 1935, University of Vienna	
A.B. 1946, The George Washington University		M.Comp.L. 1931, The George Washington University	Wa.
Stephens, Lorene Vinson	Va.	Stevens, Margaret Emelia	N.H.
A.B. 1949, University of Arkansas		Stevens, Mary Schoff	Va.
Stephens, Marvin Massey, Jr.	Va.	Stevens, Nancy Reynolds	D.C.
Stephens, Mary Isabel	Md.	Stevens, Patricia Ann	Fla.
A.B. 1950, Wilson College		Stevens, Phyllis Jeanno	
Stephens, Richard Glenn	Ind.	Stevens, Robert G.	D.C.
B.S. in E.E. 1948, Purdue University		B.S. 1951, Southern Illinois University	N.C.
Stephens, Robert Edward	Va.	Stevens, Willard Lamont	Va.
Stephens, Robert Hugh	Colo.	Stevenson, Gertrude Brothers	Maine
Stephens, Virginia Bush	D.C.	Stevenson, Joyce Bell	
A.B. 1946, University of Utah		Stevenson, Malcolm Searle	Va.
Stephens, William Paul	D.C.	Stevenson, Bowdoin College	Calif.
A.B. 1925, Duke University		A.B. 1950, Bowdoin College	D.C.
M.D. 1930, Vanderbilt University		Stevenson, Marie Joyce	Mass.
Stephens, William Theodore	Md.	Stewart, Allan Hugh	
L.I.B. 1950, A.B. 1951, The George Washington University		Stewart, Ardell Carolyn	Va.
Stephenson, Fewson Graham	N.Y.	Stewart, Arthur Gilbert	MD
Stephenson, Garth A.	Idaho	B.S. 1937, Wilson Teachers College	
A.B. 1951, Busham Young University		Stewart, Barbara Hinton	
Stephenson, George	D.C.	Stewart, Charles Todd, Jr.	MD
A.B. 1944, Princeton University		A.B. 1946, A.M. 1948, The George Washington University	
Stephenson, Juanita Mudd	S.C.	Stewart, Clark Berry	Va.
Sterling, Emmanuel George	D.C.	B.M.F. 1948, Clemson College	W.Va.
Sterling, Maeve Frederica	D.C.	Stewart, Francis Clement	
Sterling, Milton Calvin	D.C.	Stewart, Howard Nau	
Sterling, Philip Columbus, Jr.	Md.	Stewart, Jim Duane	
B.S. 1937, United States Military Academy		Stewart, Jonas Hartsell	MD
Stern, Estelle	Fla.	B.S. 1949, Alabama Polytechnic Institute	
Stern, Howard S.	N.Y.	Stewart, Merrick W.	Va.
B.S. 1950, Brooklyn College		Maryland	
A.M. 1952, The George Washington University		B.S. in M.E. 1947, University of Maryland	
Stern, Jene Bart	D.C.	Stewart, Milton David	Va.
Stern, Naomi F.	D.C.	A.B. 1941, New York University	MD
A.B. 1949, University of Michigan		M.S. 1942, Columbia University	
Stern, Philip Maurice	La.	Stewart, Noble Ellsworth	
A.B. 1947, Harvard University		Stewart, Paul Black	
Sternberg, Arnold Charles	Mass.	Stewart, Robert Malcolm	Calif.
A.B. 1947, University of Wisconsin		B.S. 1947, California Institute of Technology	Calif.
Sternberg, Hyman Max	Md.	Stewart, S. Grant	Calif.
A.B. 1942, Brooklyn College		B.S. 1941, University of Nebraska	
Sterner, Raymond Edward	Md.	Stiefel, Jeanne Jennie	
		A.B. 1947, Connecticut College	
		Stiefel, Maurice Ben	
		B.S. in Ch.E. 1951, University of Pennsylvania	



# Students Registered

553

Steger, Donald William A.B. in Govt. 1950, The George Washington University	Pa.	Stone, James Robert A.B. 1949, The George Washington University	Md.
Stell, Joseph William M.P.H. 1946, University of Nebraska	Va.	Stone, Louis Marie Stone, Lowell Thornton B.S. 1929, United States Naval Academy	D.C. Va.
Stelling, Donald Justesen Stelling, Esther Bonita Stewart, Robert Louis E.E. 1949, Yale University	D.C. D.C. D.C.	Stone, Robert Oliver Stone, Rodney Alan B.S. 1950, Tulane University	Md. Okla.
Stine, Janet Brown A.B. 1949, Oberlin College	Md.	Stone, Shelley Clyde B.S. 1950, Mount Union College	Ohio
Stine, Oscar Cabren A.B. 1950, Oberlin College	W.Va.	Stone, Virginia Greer Stone, Walter Kersten	Md. Md.
Stingle, Howard Ellsworth A.B. in Ed. 1942, A.M. in Ed. 1947, The George Washington University	Md.	Stone, William M., Jr. B.S. 1946, New York University	Va. D.C.
Stinson, Robert Tim Stirling, Edwin Tillman B.S. 1951, The George Washington University	Va. D.C.	Stone, William Wallace A.B. 1941, Goddard College	D.C.
Stirling, Genevieve Ruffner Stetman, Joseph B.S. in E.E. 1934, Cooper Union	D.C. D.C.	Stoneman, Patricia Ray Stoner, James Reist B.S. 1949, Franklin and Marshall College	Wis. Pa.
Stitt, James Logan Stitt, Nelson Alexander A.B. 1948, University of Pittsburgh	Va. Va.	Stoner, John Jacob Stoner, Sarah Sutherland Stoppelli, Louis Francis	D.C. Va. N.J.
Stober, Alfred Karl Stoddard, Charles Geer B.S. 1950, The George Washington University	Va. Va.	Storm, Matthew B.S. 1951, University of Pennsylvania	N.Y.
Stoddard, Lee McNeilly A.B. 1950, Vanderbilt University	D.C.	Stormont, Beverly Buchanan Stormont, James Russell	Va. Wis.
Storck, John Bone Storck, John Milton L.L.B. 1948, A.B. 1950, University of Alabama	Va. Ala.	Storms, Muriel William B.S.F. 1949, University of Washington	Oreg.
Storck, Carolyn Coffey Storck, Frederick Don L.L.B. 1950, University of Erlangen, Germany	D.C. D.C.	Story, Horace Edwin Story, Janet Fay	D.C.
Storck, Stephen James, Jr. B.S. 1949, University of Maryland	Md.	Stotler, Herbert Jennings Stotz, Robert Joseph B.S. in M.E. 1940, Iowa State College	Va. Va. D.C.
Stover, Marion Russell Stover, Horace Francis, Jr. Stover, James Arthur Stover, Maria Hall A.B. 1951, Radcliffe College	Va. D.C. D.C.	Stout, Charles Wilson, Jr. Stout, Curtis Montague Stratton, Milton Joseph B.S. in F.S. 1949, Georgetown University	Md. Md. D.C.
Stover, Theodore H., Jr. B.S. 1947, University of Southern California	Pa.	Stovall, Marshall Eugene Stovall, Milton Alva Stover, James Robert B.M.E. 1950, Catholic University of America	Tex. Md. Ky.
Stover, Walter B.S. 1947, College of the City of New York	Calif.	Stover, Joseph Glenn A.B. 1950, Dickinson College	D.C.
Stover, Albert Donald B.S. in E.E. 1949, Rose Polytechnic Institute	D.C.	Stowe, Mildred Walker A.B. 1929, Randolph-Macon Women's College	D.C.
Stover, Louis H. Stover, Edwin Alvin, Jr. Stover, Edwin Willis, Jr. Stover, Gregory King A.B. 1946, Northwestern University	Ind. Pa. Tex. D.C. D.C.	Stoy, Donna Lee Strachan, John Lewis Strain, Howard Alden Strange, Mervin W. Stranski, Gerald Edward B.S. 1950, Wayne University	Va. D.C. D.C. Va. Mich.
Stover, Edwin Willis, Jr. Stover, Gregory King A.B. 1946, Northwestern University	Pa. Tex. D.C.	Strasburg, Sylvia Schweiker Strasburger, Frances Ellen Strasser, Noel Faine Stratton, Anthon Stratton, Eugene Aubrey A.B. 1951, The George Washington University	D.C. D.C. D.C. D.C. Mass.
Stover, Edwin Willis, Jr. Stover, Gregory King A.B. 1946, Northwestern University	Pa. Tex. D.C.	Stratton, Thomas Joseph Stras, Richard B.S. in F.S. 1950, Georgetown University	Pa. Md.
Stover, Edwin Willis, Jr. Stover, Gregory King A.B. 1946, Northwestern University	Pa. Tex. D.C.	Strauss, Hans L.L.D. 1925, Cologne University	N.Y.
Stover, Edwin Willis, Jr. Stover, Gregory King A.B. 1946, Northwestern University	Pa. Tex. D.C.	Strauss, Iris May Strauss, Marvin David B.S. 1949, College of the City of New York	D.C. N.Y.



Strausser, Robert Edward B.S. in E.E. 1950, Pennsylvania State College	Pa.	Suarez, John Moreno Suber, James Whitley B.S. 1938, Mississippi State College A.M. 1930, The George Washington University	Ms. D.C.
Straw, Leo Shanley B.S. in C.E. 1929, South Dakota State College of Agriculture and Mechanic Arts	D.C.	Subkow, Robert Bolger Suddath, Thomas Howie B.S. 1938, United States Naval Academy	D.C. Ga.
Strawser, Neil Edward A.B. 1951, Oberlin College	Ohio	Suddath, William O'Neal B.S. 1945, United States Naval Academy	D.C. Miss.
Streedbeck, Frank Richard Street, Juanita Hultsman A.B. 1927, University of Arkansas	Iowa Va.	Suddath, Frances Anna Sudduth, Herschel Cochran B.S. 1937, M.S. 1938, M.D. 1942, University of Oklahoma	D.C.
Strettmater, Daniel Joseph Strickland, Mary Martha B.S. 1951, Georgia State College for Women	Md. Ga.	Sugar, Harold Samuel A.B. 1949, The George Washington University	D.C. N.Y.
Strickler, Marion Louise A.B. 1948, Wells College	Pa.	Sugar-Man, George B.S.S. 1944, College of the City of New York	
Strieby, LaRue Thomson Striker, Corinne Medrith	D.C. Va.	AM in Govt. 1951, The George Washington University	Va.
Strohlein, John A.B. 1949, Yankton College	Md.	Sugden, Robert Greenwood A.B. 1948, Lafayette College	Miss. D.C.
Strojniy, Julius Steven Strong, Corrin Peter A.B. 1948, Yale University	D.C.	Suglia, Thomas Anthony Sullins, Van Boren	
Strong, Timbridge Stross, Walter Charles B.S. 1950, Ohio State University	Md. Ohio	Sullivan, Agnes Sue Sullivan, Arthur Victor, Jr. LL.B. 1950, The George Washington University	
Strother, Greenville Kash B.S. 1944, Virginia Polytechnic Institute	Va.	Sullivan, Charles Xavier Sullivan, Cornelius Joseph Sullivan, Craig Kiefer	
Stroup, Paul Byron Straupe, Lawson Sidney Strucka, Lena Annette B.S. 1945, Cornell University	Md. Va. N.Y.	Sullivan, Daniel David Sullivan, David Wallace Sullivan, Donald Emmett A.B. 1941, M.S. 1943, Fordham University	
A.M. 1950, Indiana University	Fla.	Sullivan, Edward Patrick Sullivan, Francis John B.S. 1942, University of Pittsburgh A.M. in Govt. 1951, The George Washington University	
Strum, Shirley Harriett Strupp, Hans Herman A.B. 1945, A.M. 1947, The George Washington University	D.C.	Sullivan, Helen Perkins A.B. 1929, Indiana State University	
Strupp, Lottie M. Strupp, Werner A.B. 1949, The George Washington University	D.C.	Sullivan, Henry Earl Sullivan, Marguerite Josephine Sullivan, Patricia Louise Sullivan, Patrick Gerald B.S. in Mining Eng. 1943, University of Texas	
Stryker, Genevieve Fleming Stuart, Judy Reno Stuart, Kenneth Earl Stuart, Walter James B.S. 1934, United States Naval Academy	Va. Va. Ind. Va.	Sullivan, Ralph Hall B.B.A. 1942, Boston University M.S. 1949, Simmons College	
Stubbbs, Harry Clement B.S. 1943, Harvard University Ed.M. 1947, Boston University	Mass.	Sullivan, Ray Anthony Sullivan, Robert Francis Sulpace, Vivian Turner Sult, Marjorie Rose Summa, Herman Peter Sumner, Leonard B.S. 1941, M.S. 1948, College of the City of New York	
Stubbbs, Jane Augusta Stubbbs, Margaret Anne Stubbbs, Robert Sherwood II A.B. 1942, University of Alabama	Mass. Ind. Ala.	Summers, Charles Russell A.B. 1930, A.M. 1948, State College of Washington	
Stuckey, Barbara Ellen Stuckey, Mary Lucia St. John, Genevieve Murray Stoutman, Sylvia Goldman Stump, Charles Albert A.B. 1948, University of Pennsylvania	D.C. S.C. Va. Va. W.Va.	Summers, Murray P Sun, Geneva Lai Sunday, Helen Christina A.B. in L.S. 1945, The George Washington University	
Stunder, William Michael A.B. 1947, Allegheny College B.S. 1949, Carnegie Institute of Technology	Pa.		
Sturm, Cynthia Gene Sturm, Herman Mark A.B. 1948, Brooklyn College A.M. 1949, American University	Pa. N.Y.		
Sturt, Frank Albert B.S. 1941, Lehigh University A.M. 1947, The George Washington University	D.C.		

## 555

Students Registered			
Supinski, John Xavier	Pa.	Swell, Leon	W Va.
Suppes, Joan Louise	Md.	B.S. 1948, College of the City of New York	
University		M.S. 1949, The George Washington University	
Sutcliffe, Bernard Arthur	Calif.	Sweeney, Robert Owen	D.C.
A.B. 1950, The George Washington University		Sweeney, Roy Eugene, Jr.	N.J.
Sutcliffe, Robert D.	D.C.	Swenson, Dale Ellard	Md.
Sutton, Raymond Charles	Md.	A.B. 1949, Gustavus Adolphus College	
Sutton, George Arthur	Ind.	Sutnam, George Dayton	D.C.
B.S. 1952, University of Puerto Rico	D.C.	Swett, Carlton Edward	Maine
Sutton, Ruth		A.B. 1950, Bowdoin College	
Sutton, Wilmet	N.Y.	Swetz, Patricia	Pa.
Sutton, Gertrude Hardy	D.C.	Swick, Bernhard Ray	N.Y.
Sutton, John Arthur	Md.	B.S. 1947, University of Wisconsin	
Sutton, Howard Edward	Va.	Swissard, Edward Morris	D.C.
Sutton, Allen	N.Y.	Swindle, Evelyn	Va.
B.S. 1944, Colgate University		Swiradowski, Walter J.	N.Y.
LL.B. 1952, University of Rochester	Ohio	Switzell, Lowell Stanley	D.C.
University		Sydner, Charles Barrett	Mo.
Sutton, Harold Griffith, Jr.		Sykes, Edward George	Wash.
A.B. 1951, Amherst College	Md.	B.S. 1951, University of Maryland	
Sutton, Sarah Hale		Sykes, Grant Russell	La.
Sutton, Letae		B.B.A. 1950, Tulane University	
Sutton, Edmund Ignas	Md.	Sykes, Richard Tucker	Calif.
Sutton, Robert Willis	N.Y.	Sylvester, Robert Watson	Va.
A.B. 1951, Western Washington College of Education	Md.	University	
Swanson, Donald Winifred	Calif.	Synan, Anne Rates	D.C.
Swanson, Ivo James	Tenn.	Sylvan, Edward M.	D.C.
Swanson, Kathryn Vivian	D.C.	Szany, William Leo	D.C.
Swanson, Lawrence M.	Minn.	Szokolowsky, Joseph Steven	N.J.
A.B. 1951, Radford College	Va.	Szpolowski, Allen	Md.
Swanson, Victoria Anne		Szuch, Gene Frank	Ohio
Swartz, Deborah Lucille	D.C.	Swiec, Anna Krawiec	Va.
Swartz, Jean Gibson	Iowa	Swiec, Michael	Va.
B.S. 1951, Madison College	Va.	Swiec, Peter	Md.
Swartz, Henry Allen	D.C.	Szweid, Clarence Francis	Pa.
Stage, Jesse Eugene	Miss.	Szymanski, Norbert Harold	Wis.
B.S. 1949, Oklahoma Agricultural and Mechanical College	Okl.		
Stage, Lynn Leroy	D.C.	T	
A.B. 1951, Sioux Falls College		Taber, Lois L. Guernsey	Ind.
State Normal University of Iowa		B.S. 1947, Washington University	
B.S. 1947, I.L.B. 1949, University of Maryland	Miss.	Tabibi, Abdul Hakim	India
State Normal College		A.B. 1945, University of Kabul, India	
State University		Tabor, Gales Donald	Mich.
A.B. 1951, The George Washington University	Ill.	A.B. 1952, Wayne University	
State, Art Reed		Tacronelli, Domato Joseph	Pa.
State, James Jerome	D.C.	Tackett, Betty Joan	Ohio
State, Louise Catherine	Pa.	Taebler, Richard Conrad	Md.
M.B. 1950, University of Kentucky	Ill.	Taeyes, Anne	D.C.
State, Margaret Mary		Taffel, Hana	N.Y.
State, Martha Holmes		A.B. 1949, The George Washington University	
State, Mary	D.C.	Tappan, Barbara Jean	Md.
State, Mary Ann	Va.	Tatin, Henry Yehou	D.C.
State, Mary Ann		Tatnell, Albert Howard	D.C.
State, Mary Ann		Tate, Carolyn Michael	D.C.
State, Mary Ann		Tate, Alice Sankoku	Calif.
State, Mary Ann		Tate, Patricia Marie	Hawaii
State, Mary Ann		Tatman, Hilda	N.Y.
State, Mary Ann		Tatman, George Martin	Oklahoma
State, Mary Ann		A.B. 1950, University of Hawaii	Hawaii
State, Mary Ann		Tatman, Kenneth K. Marie	Hawaii
State, Mary Ann		B.S. 1949, M.S. 1950, The George Washington University	
State, Mary Ann		Talanian, Daisy	R.I.
State, Mary Ann		Talbot, Ruth Franklin	Md.
State, Mary Ann		Talbot, Cyril Arthur	W.Va.
State, Mary Ann		Talley, Warner Wood	Va.
State, Mary Ann		A.B. 1951, Bridgewater College	
State, Mary Ann		Talman, Jay	D.C.

Tamer, Joseph Jacob	D.C.	Taylor, David Franklin	Idaho
Tan, Chuan Phu	Thailand	Taylor, Dorothea Angie	Mass.
Tanaka, Hajime William	Calif.	Taylor, Dorothy Jane	Tenn.
A.B. 1950, University of California		A.B. 1943, Rice Institute	Calif.
at Los Angeles		M.S. 1947, Iowa State College	
Tanck, Roland Henry	Wis.	Taylor, Francis Gordon	Calif.
A.B. 1939, University of Wisconsin		A.B. in Govt. 1950, The George	
A.M. 1948, The George Washington		Washington University	ME
University		Taylor, Frank, Jr.	VI
Tanetani, Seizo	Japan	A.B. 1935, Mercer University	
LL.B. 1941, Tokyo Imperial University		Taylor, Frank Colson	
Tang, Tze-Tung	D.C.	Taylor, Herbert Bradley	Minn.
B.S. 1949, St. Mary's College		B.S. 1950, The George Washington	
M.S. 1951, The George Washington		University	
University		Taylor, Herman Eugene	W. Va.
Tannenbaum, Joseph O.	D.C.	A.B. 1940, LL.B. 1951, University	SC
A.B. 1940, College of the City of		of Mississippi	VA
New York		Taylor, Hubert T.	
Tanner, Robert Lee	D.C.	Taylor, James Franklin	D.C.
Tanner, William Ashley	Va.	Taylor, James Robert	
B.S. 1950, Western Maryland College		A.B. 1951, University of Chicago	
Tannhauser, John Ulrich	Md.	Taylor, James William	N.C.
A.B. 1951, The George Washington		B.S. 1947, Wilson Teachers College	VA
University		A.M. in Ed. 1948, The George	
Tanos, James Dimitri	Va.	Washington University	W. Va.
A.B. 1949, University of Pennsylvania		Taylor, Jane Elizabeth	
Tanzman, Janet Sybil	Va.	Taylor, John Perry	VA
Tappa, William Maurice	Calif.	Taylor, Kenneth Lee	
Tappe, William McKee	D.C.	A.B. 1946, West Virginia University	
Tarasevich, Anne	Fla.	Taylor, Leslie Kelly	De
Tardosky, Arthur Joseph	Md.	B.S. 1954, United States Naval	VA
Tarleton, George Wilson	Ark.	Academy	
B.S. 1945, United States Naval		Taylor, Marion Ruth	MD
Academy		Taylor, Mark Stratford	DE
Tart, Nelson Monroe	N.C.	Taylor, Mary Jane	NY
B.S. 1949, Wake Forest College		A.B. 1951, Duke University	
Tasaka, Toshio	N.Y.	Taylor, Mary Landon	Calif.
B.S. 1951, New York University		Taylor, Paul Strother	VA
Taschman, Harvey Arnold	N.Y.	Taylor, Robert Leslie	
A.B. 1946, University of Wisconsin		A.B. 1941, Syracuse University	
A.M. 1947, Western Reserve		Taylor, Samuel deGuyon	
University		Taylor, Shelton Billy	
M.S.W. 1949, University of Pittsburgh	Fla.	Taylor, Sylvia Laird	VA
Tashiro, Jane Miyako	D.C.	A.B. 1948, The George Washington	
Taske, Morton Jerome	Va.	University	
Tassin, James Stanley		Taylor, Virginia Ashby	
A.B. 1948, Northwestern State		Taylor, Walter Ralph	
College of Louisiana	Va.	B.S. 1948, Ohio State University	
Tate, Dorothy Wyle		Taylor, Warren Francis	
A.B. 1947, Hollins College	Va.	Taylor, Walter Asher	
Tate, James Brock, Jr.		Taylor, William	
A.B. 1949, Alfred University	Va.	Taylor, William Russell	
Tate, Ivan F.	D.C.	Taylor, Mary Margarette	
A.B. 1951, Duke University		Teacher, Ernest Howard	R
Tate, Margaret Jean	D.C.	B.S. 1949, The George Washington	
Tatari, Blaine McGraw	Va.	University	
Taub, Irwin Meyer	Mass.	Telern, John Peter	
Tauber, Lilly Katherine	D.C.	LL.B. 1951, The George Washington	
A.B. 1947, Peter Pazmany University		University	
of Budapest	D.C.	Techner, Martin Richard	
Tedden, Nannie	D.C.	LL.B. 1951, The George Washington	
Tedder, Albert F.		University	
B.S. 1941, Wilson Teachers College	Va.	Tedden, Vivian Ione	
Tedder, Ada Elizabeth		Teagle, John Bliss	
A.B. in Ed. 1949, The George		Teeter, Bevelyn Ellen	
Washington University		Teeter, Lawrence William	
Taylor, Andrew Eastman	Md.	Teeter, Walter William	
B.S. in M.F. 1947, Tufts College		Teeter, Raymond B.	
Taylor, Anne Upshur	Va.	A.M. 1950, University of Denver	
Taylor, Charlotte Marie	Va.	Tejada, Nedi	
Taylor, David Gerald	D.C.	Teller, James David	
A.B. 1949, Salem College		Tennin, Adele	
Taylor, David Bailey	Ind.	Tendler, Arthur Charles	



# Students Registered

557

Tenenbaum, Milton			
B.S. 1951, Syracuse University	D.C.	Thomas, Arthur Robert	Va.
Ten Eyck, Laura Breckinridge		Thomas, Andres Frances	D.C.
A.B. 1949, Vassar College	N.Y.	Thomas, Barbara Ann	Va.
Tenley, Lynn Dunbar		Thomas, Bertha Osborne	Va.
Tennant, William Harrison	Va.	Thomas, Betty Jane	Pa.
A.B. 1949, La Salle College	D.C.	Thomas, Earl Edward	Ala.
Tennant, William Samuel, Jr.	S.C.	Thomas, Gregory	Md.
A.B. 1948, The Citadel		Thomas, Howard F.	Va.
Tennery, Billy Jack	Md.	Thomas, James, Jr.	Md.
A.B. in Govt. 1949, The George Washington University		B.S. 1948, University of Maryland	Calif.
Tennille, Robert Mell, Jr.	Fla.	Thomas, James Edward	
Tenny, Lloyd Stratley, Jr.	Va.	B.S. in F.S. 1944, Georgetown University	
Tennyson, Georg Geoffrey	D.C.	Thomas, James Samuel	Ky.
Tennyson, Theodore Magnus, Jr.	D.C.	Thomas, Joseph Albert	D.C.
Tepper, Milton Leo	Va.	Thomas, Luther Minter, Jr.	Va.
A.B. 1938, A.M. 1939, New York University		Thomas, Meriwether Graves	Va.
Terkozki, Sylvester Adolf	Pa.	Thomas, Myrtle	D.C.
Terrell, Forrest Eugene	D.C.	B.S. 1912, Radford College	
Terrell, John Elwood	Conn.	Thomas, Nancy	D.C.
B.S. 1948, Georgetown University		Thomas, Neil Eugene	Ohio
Terrell, Hunter Luzader		Thomas, Paul Augustus, Jr.	Pa.
Terrell, William Wallace	Va.	B.S. 1948, The George Washington University	
Terry, Thomas G.	Ind.	Thomas, Paul Bert	N.Y.
A.B. 1950, University of California	Va.	Thomas, Ralph Leslie	Fla.
Terry, Irene Marcia	Va.	B.E.E. 1947, University of Louisville	
Terry, George Abbott	N.Y.	Thomas, Raymond Edward	D.C.
B.S. 1950, University of Richmond	Md.	Thomas, Richard Crawford	D.C.
Terry, George Mulford		Thomas, Robert Allied	Colo.
A.B. in Govt. 1947, The George Washington University	Md.	B.S. in F.S. 1950, Georgetown University	
Terry, John Edward		Thomas, Robert Lawrence	Pa.
Terry, Luke Edward	D.C.	B.S. in Ed. 1949, Pennsylvania State Teachers College, Bloomsburg	
B.S. 1948, University of Tennessee	W.Va.	Thomas, Robert Wilbur, Jr.	D.C.
Terry, Paul Alfred		Thomas, Roy Charles	Tenn.
Terry, Spurgeon Dewey, Jr.	Md.	Thomas, Ruth Lee	Md.
Terry, Charles Benjamin	D.C.	Thomas, Virginia Doris	Va.
Tetter, Zola Lee	D.C.	Thomas, Wallace Jerome	S.D.
Tetlow, Richard Preston, Jr.	D.C.	B.S. 1940, United States Naval Academy	
AB in Ed. 1941, The George Washington University	Va.	Thomas, William Bates	D.C.
Tetlow, Lois		A.B. in Govt. 1951, The George Washington University	
Tetlow, Frank Louis	D.C.	Thomas, William Francis	Md.
Tetlow, Harry James	Va.	Thomas, William Franklin	Va.
Tetlow, Mary Elizabeth	Va.	B.S. 1948, University of Oregon	
Tetlow, James Linton	Va.	Thomas, William Price, Jr.	D.C.
AB 1946, Harvard University	Md.	Thompson, Albert Lacy, Jr.	D.C.
Tetlow, Rebecca		B.S. in P.E. 1951, The George Washington University	
Tetlow, Grace Augusta	Tenn.	Thompson, Allan Glasgow	Va.
Tetlow, Edgar Kent	D.C.	B.S. in E.E. 1948, Montana State College	
Tetlow, William David	Va.	Thompson, Christie G.	Va.
Tetlow, Egbert A. Lyson	Pa.	A.B. 1951, Radcliffe College	
Tetlow, Gyle Carolyn	D.C.	Thompson, Christopher Steel	D.C.
Tetlow, Yvonne Helen	Va.	Thompson, Conrad Warden, Jr.	W.Va.
Tetlow, Charles Brooks	Va.	B.S. 1948, Marshall College	
Tetlow, Frederick H.	Md.	Thompson, Edna Liela	Md.
Tetlow, Demetrius N. Jolas	Ky.	Thompson, Edwin Strick	Pa.
A.B. 1949, Drake College	Mass.	B.S. in C.E. 1951, Tri State College	Iowa
Tetlow, Gary Lloyd	D.C.	Thompson, Eleanor R.	D.C.
B.S. 1951, Utah State Agricultural College	Utah	Thompson, Emma Louise	
Tetlow, Father Blanche		B.S. 1951, Wilson Teachers College	
Tetlow, Fred	Iowa	Thompson, Frances Clark	Va.
Tetlow, Jeanne LeConte	D.C.	Thompson, Garland Pennell	D.C.
B.S. 1944, Pennsylvania State College	Va.	Thompson, George Lawrence, Jr.	Va.
Tetlow, Frank	N.J.	Thompson, Harold Edward	Fla.
B.S. 1944, Temple University		Thompson, Harold Lott	Md.
		Thompson, Harriett	
		A.B. 1950, The George Washington University	

Thompson, James Dewey	Va.	Ticknor, William Ormsby	N.C.
Thompson, James Edward	N.M.	Ticknor, Howard Erwin	Da.
B.S. 1950, University of New Mexico		A.B. 1950, The George Washington University	
M.S. 1951, University of Wisconsin			
Thompson, James Morris	Tex.	Tidball, James Gorman	D.C.
A.B. 1950, University of Corpus Christi		Tiedemann, John George	D.C.
Thompson, James Walter	Va.	Tiel, David	Wa.
B.S. 1949, University of Pittsburgh		Tierney, John Lester	
Thompson, John Frederick	D.C.	A.B. 1929, University of Minnesota	N.C.
Thompson, John Munley	Va.	LL.B. 1918, University of Wisconsin	Me.
Thompson, Judith Covington	N.C.	Tietgen, Gladys M.	Ch.
Thompson, Katherine De la Noy	D.C.	Tiche, John Francis	
Thompson, Kenneth Leroy	N.J.	Tilberry, James H.	
Thompson, Kinsley Prentiss	Ohio	B.I.E. 1947, LL.B. 1951, Ohio State University	N.C.
B.S. 1949, Case Institute of Technology			N.Y.
Thompson, Marion Dorinne	D.C.	Till, M. Virginia	
Thompson, Marjorie Carol	Ky.	Tillmann, Alfred Albert	N.Y.
Thompson, Mary Elizabeth	D.C.	B.S. 1941, New York University	
Thompson, Matthew Charles	Va.	Tillman, Murray	Va.
B.S. 1949, Iowa State College		A.B. 1944, Brooklyn College	
Thompson, Ralph Franklin	Kans.	Tillson, Barbara Jane	Me.
Thompson, Ralph Mortimer	Fla.	A.B. 1942, Madison College	
A.B. 1918, Hampden-Sydney College		Timken, Harold Andrew, Jr.	D.C.
LL.B. 1948, Georgetown University		B.E. in E.E. 1943, Tulane University	Pa.
Thompson, Robert Charles	D.C.	Timlin, Marguerite	Va.
Thompson, Robert Lee	Pa.	Timmerman, Charles Robert	N.Y.
Thompson, Roland Landreth	D.C.	Timmons, Joseph Edward, Jr.	P.C.
Thompson, Stephanie Edith	Va.	Timoner, Edwin Sanford	Me.
Thompson, Thomas Mann	N.C.	Tingen, Tones Macon	Ch.
Thompson, Virginia Mary	Maine	Tingle, S. Morton	
Thompson, Wallace Eugene	S.C.	Tinkman, Valerie Davis	
A.B. 1940, University of North Carolina		Tinsley, William Granville	N.C.
Thomson, Earl Lyman	Va.	A.B. 1932, Centre College of Kentucky	Me.
B.S. 1951, Virginia Polytechnic Institute		Tipton, Clarence Lee	
Thomson, Robert Lee	D.C.	Tipton, Frank Preston	Va.
A.B. in Govt. 1942, The George Washington University		B.S. in B.A. 1941, University of Georgia	
Thornington, Harry Sumpter	Calif.	Tipton, Van Collier	
Thorkelson, John Milton	Calif.	A.B. 1926, Southwestern University	
A.B. 1949, San Diego State College		M.P.H. 1939, Johns Hopkins University	D.C.
Thordylke, Myron Samuel	D.C.		
Thorne, Charles Harry, Jr.	D.C.	Tisdale, George Smith, Jr.	N.C.
Thorne, Edward Young Cox	D.C.	A.B. 1951, College of William and Mary	Me.
A.B. 1949, University of North Carolina			
Thorne, John Watson III	Me.	Titelman, Rose Eleanor	
Thorne, William Edward	D.C.	Titlington, George Frank	Tenn.
Thornhill, Thomas Aubrey	D.C.	B.C.E. 1950, The George Washington University	D.C.
Thorton, Mary Hunter	Calif.		Me.
Thorton, Percy Jr.	N.C.	Tittsworth, Hobbie Lynn	Me.
Thorton, Ruth Eugenia	N.C.	Titus, Aileen	Va.
Thorton, William Milo	Va.	Titus, Elsie White, Jr.	Va.
Thorp, Franklin Kristian	Wash.	Tivnan, John Thomas	D.C.
A.B. 1950, University of Washington		Toulson, Roberta Jeanne	
Thorpe, Edward Garnet	D.C.	Tobey, Carolyn	P.
Thorpe, Margorie Pauline	Minn.	Tobey, Patricia Anne	
Threatt, Lemuel Tillman	D.C.	A.B. 1951, Western Maryland College	D.C.
Threatt, Sterling Reynolds	Me.	Tobias, James Howard	Me.
Thrift, William Carroll	D.C.	Tobias, Jerome Jerry	Va.
Throckmorton, William Robert, Sr.	Va.	B.S. 1948, Syracuse University	N.C.
Thurman, Norman	N.Y.	Tobin, Mabel Letore	P.
Thurmond, Frances H.	Me.	Tobin, Ralph Moyanus	P.
Thweatt, Vivian Mitchell	Tenn.	Toda, Joanne Joe	Va.
A.B. 1947, Randolph-Macon College		Toda, Kumao Kenneth	Va.
Tibbitts, William Badger John	Va.	Toda, James William	Me.
Tibbitts, Robert Cash	Mo.	B.S.A. 1950, University of Florida	Pa.
Tichert, Joan Dorothy	N.J.	Todd, Lincoln Samuel	Va.
Tiches, Louis James	D.C.	Todd, Maria Pevcar	Conn.
		Todd, Tray Mitchell	Conn.
		Tolt, Resett	
		Tokatz, John Paul	
		Tols, Arthur	
		Toll, David Ross	
		B.S. 1946, United States Naval Academy	



# Students Registered

559

Toll, Mary Kathryn B.S. 1946, University of California	Ohio	Tralka, George Anthony B.S. 1949, Georgetown University	N.Y.
Tolley, Howard Elmer	Va.	Tralongo, Sebastian James	Conn.
Tolley, John Alexander	D.C.	Trampus, Anthony	Ohio
Toliver, Marjorie Elizabeth	Va.	B.S. 1951, Case Institute of Technology	Pa.
Toliver, John Sheridan	Md.	Trans, Eberhard G.	Va.
Tolson, Robert James	S.D.	Tranoun, Lucile V.	
Tolson, Robert Hough	D.C.	A.B. 1932, College of William and Mary	
Tom, Robert M. S.	Hawaii	Trattner, Marvin	N.Y.
Tomasello, Nicholas A.	D.C.	B.S. 1949, College of the City of New York	
B.S. 1939, College of the City of New York		Travagline, Constance	Va.
LL.B. 1933, Columbia University		Travers, Herbert Edward	Va.
Tomes, James Francis	Md.	Travers, Martin Joseph	Wash.
B.S. 1949, University of Maryland		B.S. 1941, United States Naval Academy	
Tomkins, Leonard George	Va.	Travis, William Livingston	Ga.
Tomlinson, Joseph Robert	D.C.	B.S. 1911, United States Military Academy	
Tomsko, Robert Ferdinand	D.C.	Traywick, Gary Leon	D.C.
B.S. 1950, University of Maryland		Treadway, Mary Evelyn	D.C.
Tong, Marjorie Ellen		Tremblay, John Peter	D.C.
Tomney, John Samuel	Calif.	Tremblay, Clifford William	N.J.
A.B. 1949, The George Washington University	Tenn.	Tress, Madeleine	N.Y.
Tomney, Thomas Joseph		Trevathan, Henry Lawrence	N.C.
Tompa, Charles Arthur	D.C.	Treumann, Walter	D.C.
A.B. 1938, West Virginia University	W.Va.	A.B. 1946, Washington University	
A.M. 1950, The George Washington University		A.M. 1948, University of Chicago	
Torbert, Frances Roberta		Trevino, Daniel Kudler, Jr.	Tex.
Torik, Mary Singer		B.B.A. 1948, University of Texas	
Torin, Norman Gilbert	Md.	Tribbe, Richard Stewart	Va.
B.S. 1951, The George Washington University	D.C.	Tribby, Gilbert Ayce	Va.
Toro, Rafael Andres	D.C.	Trickett, George Waldeck	D.C.
B.S. 1921, University of Puerto Rico		Trickey, Everett Alan	Oreg.
M.S. 1925, Cornell University		B.S. in E.E. 1938, United States Naval Academy	
A.M. 1945, Harvard University		Trogo, Luis Camilo	D.C.
Torrey, Elizabeth Anne		Tromble, Eugene Earl	Kv.
Torrey, James Eugene		A.B. in Govt. 1949, The George Washington University	
B.S. in F.S. 1951, Georgetown University		Tromble, North III	D.C.
Torrey, Osman Nuri		B.S. 1948, University of North Carolina	
Tory, Victor		Tromble, Suzanne Sara	Va.
Trotter, John Stephen	Turkey	Trimmer, Ardith Gay	Pa.
Trotter, Edward Lorenz	D.C.	Triplet, Mary Elizabeth	Mo.
Trotter, Elena Consuelo	N.J.	Triplet, Wasel Cavett	Md.
Trotter, Robert Henry	Maine	Triplet, William Everett	Va.
Trotter, Carl M.	D.C.	B.S. 1949, Georgetown University	
Trotter, Patricia Ann	Md.	Tripp, Bonnie Ben	Ill.
Trotter, Thomas Nelson	Philippines	Tripp, Richard Carlton	Va.
A.B. 1951, Municipal University of Omaha	Nebr.	Trivavagh, Kenneth Franklin	Md.
Trowell, Woodrow Emory		Trites, Hattie Grace	Va.
Trowell, Alan Harold		A.B. 1927, Wayne University	
Trowell, Margaret Elizabeth K.	D.C.	Trivavagh, William Jennings	Va.
A.B. 1934, Lebanon Valley College	Canal Zone	Trivavagh, Marian Hopgood	D.C.
A.M. 1951, Middlebury College		Trivavagh, Frank Anthony	Va.
Trowell, Robert Penn, Jr.	D.C.	Trom, Charles Edmund	D.C.
Trowell, Arnold Martin		Trom, Robert Augustus, Jr.	Md.
A.B. 1949, Brooklyn College	Md.	A.B. in Govt. 1951, The George Washington University	Md.
Trowell, John Joseph	D.C.	Trostensky, Charles Hilary	D.C.
A.B. 1946, University of Scranton	N.Y.	Trostman, Edward Clark	Pa.
LL.B. 1950, Georgetown University		Trovato, Grace Mary	N.Y.
Trowell, Louise	D.C.	Trosett, Richard Martin	D.C.
Trowell, Marie Bethwell	D.C.	Truworth, Orson William	Va.
Trowell, Mary Margaret	Kans.	B.S. 1946, Wilson Teachers College	
Trowell, Robert	D.C.	A.M. in Ed. 1948, The George Washington University	
Trowell, Robert Frazer	Wyo.	Truhan, Andrew	
Trowell, Mabel Dazey	Md.	A.B. 1947, University of Michigan	Ohio
A.B. 1952, The George Washington University	Wis.		



Truitt, Ruth Annette	D.C.	Turner, Irving	Va.
Trumbull, Robert Gay, Jr.	D.C.	B.B.A. 1941, LL.B. 1948, Georgetown University	
A.B. 1949, The George Washington University		M.S. 1946, The George Washington University	Ort.
Trump, Elizabeth Barbara	Fla.	Turner, Jean Black	Ort.
A.B. 1950, The George Washington University		Turner, Joseph Morton	Ort.
Trundle, David	D.C.	A.B. 1940, Whitman College	Fla.
A.B. 1933, Western Maryland College		Turner, Laura Lucille	Fla.
Trussell, Margaret Ann	D.C.	Turner, Mary Carolyn	D.C.
Trussell, Rosemarie Bernadette	Md.	Turner, Mary Johnston	Md.
Trytko, Bert Peter	Ind.	Turner, Mary Madge	Md.
B.S. 1949, Georgetown University		A.B. 1940, Florida State University	Md.
Tsacnaris, Harry John	D.C.	Turner, Melba Hallas	
A.B. 1949, University of Southern California		Turner, Philip Hale	Ort.
Tsacnaris, Helene Litrides	D.C.	Turpin, Frank Gale	Va.
Tsantes, John Frank	Va.	A.B. 1951, American University	
A.B. 1950, University of North Carolina		Turpin, James Carroll	D.C.
Tschaepe, Millicent Muriel	N.Y.	Turpin, Richard Allen	Va.
Tseng, Maurice Hsien-pin	D.C.	B.S. 1949, University of Virginia	Md.
Tsimides, James Leonidas	Maine	Tushin, June M.	Va.
Tsch, Harold Adrian	Ohio	Tuttle, Carl Robert	
B.S. 1950, University of Cincinnati		Twiford, Elwood Borton	
Tucker, Katherine M.	D.C.	Twigg, John Milton, Jr.	
Tucker, Lillian Elizabeth	Va.	Twilla, John Kenneth	Md.
A.B. 1949, University of Vermont		B.S. 1949, United States Naval Academy	D.C.
Tucker, Nancy Garrison	Va.	Twing, Shirley W.	
Tucker, Norman Elmer	Va.	Tyler, Charles Raymond	N.Y.
Tucker, Ralph M.	Nev.	Tyler, Ruth Crandon Nash	Md.
Tucker, Richard Lee	Va.	Tym, Leon	
Tucker, Simon		Tyma, Stephen	Va.
B.S.S. 1940, College of the City of New York		Tyre, Thomas Edward	Tex.
M.P.A. 1943, New York University		B.S. 1951, University of Maryland	
Tueting, William Francis, Jr.	N.D.	Tyrell, William James	
B.S. in C.E. 1938, University of North Dakota		Tyson, Harriet Agnes	
Tufte, Loraine Marion	D.C.		
A.B. 1948, St. Olaf College		U	
Tugendhaft, Robert I.	D.C.	Uchman, Casimer Francis	Md.
B.S. 1948, The George Washington University		Udelson, Daniel Gerald	Va.
Tullner, William Wirsing, Jr.	Md.	Uhl, John Philip	D.C.
A.B. 1937, Temple University		Uhler, Marcus Halper	D.C.
Tulosbetaki, Marion	Pa.	Ujevich, Robert Matthew	Md.
Tumulty, John Francis	D.C.	A.B. 1950, Duquesne University	
Tunks, Omar Alvin	Va.	Ulane, Daria Bohdanna	Va.
Tupas, Isabel G.	D.C.	A.B. 1947, New York University	
A.B. 1951, Dunbarton College of Holy Cross		Ulin, Jeremy Coleman	D.C.
Turberville, Alice Atwill	Va.	A.B. 1950, Harvard University	D.C.
B.S. 1943, Mary Washington College		Ullman, Guy Norman II	D.C.
Turchetti, Anthony Joseph	Pa.	B.S. 1943, University of Maryland	
B.S. 1945, M.S. 1947, Pennsylvania State College		Ullman, Jack Donald	D.C.
Turco, Rudolph Joseph	D.C.	B.S. 1951, University of Illinois	
A.B. 1948, Otterbein College	Pa.	Ullrich, Robert James	D.C.
Turaburke, David Vernon	D.C.	A.B. in Govt. 1948, The George Washington University	D.C.
Turner, Billy Eugene	Md.	Ulschafer, Clarence Benton	
Turner, Brice Williams		Umhu, John Bernard, Jr.	Puerto Rico
A.B. 1950, Harvard University	Va.	A.B. 1949, The George Washington University	Va.
Turner, Charles Herman		Umpierre, Francisco Jose	
B.S. 1955, United States Naval Academy		A.B. 1950, University of Puerto Rico	Ort.
Turner, George Eugene	Va.	Umstead, Richard Baxter	Va.
B.S. 1946, Carnegie Institute of Technology		A.B. 1950, University of Maryland	D.C.
Turner, Harnet Oxford	Va.	Underwood, Floyd Everett	Ort.
Turner, Humphrey Lewis	Ga.	Underwood, Kathleen Lennon	D.C.
		Underwood, Martha Jackson	Ort.
		Unger, Donald Leonard	Fla.
		A.B. 1950, University of California	D.C.
		Unger, Dean Martin	
		Unger, Howard Robert	
		A.B. 1949, The George Washington University	

# Students Registered

561

Unger, Richard Wayne A.B. 1949, The Citadel	Pa.	Van Allen, Peter	
Unkenholz, Willard Clifton B.M.E. 1948, College of the City of New York	Md.	Van Allen Roland Louis	D.C.
Uninn, Helen Frances		Van Briggie, Robert Dallas	Va.
Unterberger, Owen		A.B. in Govt. 1949, The George Washington University	Mo
Updike, Jon Edward	D.C.	Vance, John Andrew	W Va.
Upoff, James Harold	N.J.	B.S. 1951, Fairmont State College	
A.B. in Govt. 1952, The George Washington University	D.C.	Vance, Lucy	W Va.
Upton, Arvin Edward	Va.	Van Court, Louise Alicia	Miss.
A.B. 1953, Western Kentucky State Teachers College	Ky.	Vandale, Kathleen Cecelia	R.I.
LL.B. 1940, Harvard University		B.S. 1949, Rhode Island State College	
Urban, Edward William		VanDiavere, Georgiana T.	Va.
A.B. 1950, Elmhurst College		VandHouten, John Robert	Ill.
Urban, John Morris	Conn.	B.S. 1951, Illinois Institute of Technology	
A.B. 1950, Fresno State College		Van Derga, Patricia M	D.C.
Urban, David Allan	D.C.	A.B. 1952, A.M. 1954, University of Wisconsin	
Urban, Henry Herman	Md.	Vanderecock, Lynn Beattie	D.C.
J.D. 1949, University of Vienna	D.C.	Vandermause, Orville Joseph	D.C.
ington University		A.B. 1942, Wisconsin State College	
Ushyama, John Takeji		Vander Wolk, Walter William, Jr.	N.Y.
A.B. 1950, Grinnell College	Hawaii	B.S. 1945, United States Naval Academy	
Uso, Joseph Anthony		C.E., M.C.E. 1948, Rensselaer Polytechnic Institute	
Uso, Antonio	Conn.	VandeSandt, Alice	Mont.
Ulaner, Hiram	Italy	Van De Weyer, Joseph Florent	Calif.
B.S. 1951, Ohio University	D.C.	Van Doren, Beasie	D.C.
A.M. 1952, Columbia University		Vandoren, Edward Bennett	Md.
Lucy, Donald Clyde	N.C.	B.S. in Eng. 1945, Virginia Polytechnic Institute	Va.
Lucy, Marilyn Carol	Va.	LL.B. 1948, University of Virginia	
Lucy, Semak Aydemir	D.C.	Van Fleet, Schuble Dean, Jr.	D.C.
B.S. 1951, Memphis State College	Tenn.	A.B. 1946, Hobart College	
Lucy, Frank Herbert	D.C.	LL.B. 1949, University of Michigan	
Lucy, Judith Cecile	D.C.	Van Gorder, Lewis George	Md.
		B.S. 1945, Mansfield State Teachers College	
V		Van Grack, Richard	D.C.
Vaccari, Raffaele Augustus	D.C.	Vangral, Taron	D.C.
Vadovsky, George Varkes	Va.	Van Handenrove, Roger	D.C.
A.B. 1940, West Liberty State College	Va.	Van Herpe, Leo Bryant	D.C.
Vad, Benjamin Anthony		B.S. 1951, American University	
Vad, Thomas L. C.	D.C.	Van Houten, Louis Arthur	Iowa
Vad, John Richard	Pa.	B.S. 1950, Iowa State College	
Vad, Dorothy Louise	Mass.	Van Meter, Ellsworth Evans	Ind.
Vad, Wilfred Napoleon	N.H.	A.B. 1952, Indiana State Teachers College	
A.B. 1951, University of New Hampshire		Van Meter, Jack Philson	D.C.
Vad, Victor John	Va.	Vann, Clarence Houston	Mich.
Vad, Virginia Titia	N.Y.	B.S. 1947, Wayne University	
Vad, Hunter College		Van Natta, Kathryn Shelton	Md.
Vad, William Charles	Va.	B.S. in Ed. 1954, Central State College	
Vad, Yale University	Colombia	Van Norman, Leon Wesley	N.Y.
Vad, Pablo	Calif.	Van Rensselaer, Henry Cammann	D.C.
Vad, Pascual	Fla.	Van Riwick, Guy Everett	Va.
A.B. 1951, San Jose State College		A.B. 1950, The George Washington University	
Vad, Andrew Jackson	Mo.	Van Sanford, Gordon Myron	D.C.
B.S. 1945, United States Naval Academy	Va.	A.B. 1949, The George Washington University	
Vad, Gordon Kenneth	Fla.	van Santen, John Henry, Jr.	Ohio
A.B. 1942, Clark Warren		Van Schaack, Howard Douglas	Ill.
Vad, Mariene Parks		A.B. 1950, Grinnell College	
Vad, Philip Endicott	D.C.	Van Sickler, Catherine Alice	Va.
Vad, Joseph Endicott	N.Y.	A.B. 1950, University of Maryland	
Vad, John Steven	Md.	Van Sickler, Gail Treat	D.C.
Vad, John Steven	Va.	Van Sickler, Robert Howard	Md.
Vad, Ada Ruth	Guatemala		
Vad, Peter Louis	N.Y.		



Van Staden, George Arthur A.B. in Govt. 1950, The George Washington University	N.Y.	Vest, Joan Pinckney Wheeler Vest, Robert DuVal Vest, Stanley Jay	
Van Way, Charles Ward, Jr.	D.C.	Veth, Kenneth LeRoy	
Van Winkle, Marian Logue	Pa.	B.S. 1935, United States Naval Academy	
Varas, Hortensia	Va.	Vezler, Perry Norman	
Varavan, Tivsvakorn	Bolivia	A.B. 1941, University of Chicago	
Varela, Federico Guillermo	Kans.	Vibelius, Richard John	
Varenhorst, Glenn Elmer		B.S. 1950, University of Illinois	
A.B. 1949, M.P.A. 1952, University of Kansas	N.J.	Vick, Billy McGuire	
Varga, Constantine Francis	Ind.	Vick, David Franklin	
Vargo, Charles Alex	Conn.	Vidal, Paulo Padilha	
Vargosko, Andrew John, Jr.		Vidmar, Joseph Ernest	
B.S. 1951, University of Maryland	Va.	A.B. 1948, New York State College for Teachers	
Vary, Willis Leavenworth		B.S. in L.S. 1940, Louisiana State University	
B.E.E. 1951, The George Washington University	Pa.	Viehman, Evelyn Huffman	
Vasil, Michael	N.Y.	A.B. 1943, University of Illinois	
Vasquez, Frank R.	Va.	Viehoefer, Kent	
Vaughan, Joseph Harrison	Va.	B.S. 1952, Columbia University	
Vaughan, Leonard Walton		Vienneau, Wilfred Clifford	
A.B. 1949, A.M. 1951, The George Washington University	D.C.	Viente, Asher	
Vaughndorf, Betty Ray	Mo.	Viken, Lorraine M.	
Vaupel, Versie Edith	Va.	Vildzius, Annette	
Vaupel, Warren Frederick	Mass.	Vildzius, Margaret Biruta	
Vautrain, Charles Edward, Jr.		Vilker, Arlyne L.	
B.S. 1941, United States Coast Guard Academy	Conn.	A.B. 1949, University of Massachusetts	
Vecoli, Rudolph John		Villa, Romulo S.	
A.B. 1950, University of Connecticut		Vince, Robert Arthur	
A.M. 1951, University of Pennsylvania	S.C.	B.Ch.E. 1951, Syracuse University	
Vehorn, John Wesley	Calif.	Vincent, Eolene Follin	
Vekroff, Ray Lillibridge	D.C.	A.B. 1950, The George Washington University	
Velander, Wallace Earl		Vincent, H. Edward	
A.B. 1950, University of Maryland	Ill.	Vines, Ethel Louise	
Velde, Richard Whittington	N.J.	Vinkoski, David	
Vellone, Joseph		Vinkes, Stanley Charles	
A.B. 1938, New Jersey State Teachers College, Montclair, New Jersey		Vinson, James Robert	
Venezky, David Lester	Md.	Viola, Gennaro	
B.S. 1948, The George Washington University		Vipperman, Emmett Eugene	
Venezky, Edith Rita	D.C.	Vinbal, Florence Mary	
A.B. 1951, The George Washington University		Viren, Fred Kenneth	
Venezky, Milton Saul	Md.	Vinga, Angelo Marion	
Vennik, Jacob	D.C.	Virgin, Claude Ambrose	
Venz, Annette Adams	Va.	Vitis, Henry Alan	
Veracruz, Camel Garcia	D.C.	Vitale, Michael Joseph	
Verano, Hugh Labor	W.Va.	L.L.B. 1950, The George Washington University	
L.L.B. 1949, Washington and Lee University		Vittellio, Joseph Bruno	
Veras, Carlos dos Santos	D.C.	Vivian, Charles George	
Verbits, Albert	Pa.	Vivori, William Frank	
A.B. 1949, Pennsylvania State College	Va.	Vlachakis, Leonidas Charalambos	
Vereen, Vivian El Dorn	D.C.	Vlachakis, Anthony John	
Vereoniss, Mary	Belgium	Vlahos, Michael E., Jr.	
Vermoulen, Lucienne Henrietta	Va.	Vlier, Leland Arthur	
Vernon, Susan Emily	Okla.	A.B. 1947, A.M. 1950, The George Washington University	
Vernor, Richard Enloe		Vlindis, Anthony John	
A.B. 1949, University of Oklahoma	Md.	Voetsch, Robert Otto	
Vernov, Collin W.	Va.	A.B. 1952, University of Miami	
Verriner, Edmund Kearny, Jr.	D.C.	Vogel, Cornelius Ruediger	
Verwiebe, Jennifer Mary		B.S. 1947, University of Leipzig	
A.B. 1947, Wells College	N.Y.	Vogel, Frederick Gregory	
Verwiebe, Sylvia B.		Vogel, John Lloyd	
A.B. 1951, Brooklyn College	Pa.	A.B. 1949, Calvin College	
Vesely, Ernest V.		A.M. 1951, University of Michigan	
B.S. 1948, L.L.B. 1950, University of Pittsburgh	N.Y.	Vogel, Ralph Henry	
Vespole, Michael James		B.S. 1946, Harvard University	
		Vogel, Richard Henry	
		A.B. 1951, University of Maryland	



## 563

Students Registered			563
Vont, Allan Frederick			
B.S. 1931, M.S. 1950, Ithaca College	Md.	Wainner, Jack	
Volchko, Steve John		A.B. 1947, The George Washington	D.C.
Volins, Lillian	Pa.	University	
Volk, Charles Richard	D.C.	Wainner, Martha Edith	Va.
A.B. 1951, University of Pittsburgh	Pa.	Wakefield, Paul	Tenn.
Vollett, Donald Williard		A.B. 1934, Loyola University	
Vogel, Joseph James	D.C.	A.M. 1939, George Peabody College	
Vonell, John Dunbar	Pa.	for Teachers	
A.B. 1949, The George Washington	Md.	Walczak, Bronislaw Stanley	D.C.
University		Walczak, Virginia Tye	D.C.
Von Knef, Feeder		Walman, Eric	Md.
Certificat 1947, The Hague, Academy		A.B. 1950, A.M. 1951, The George	
of International Law	Switzerland	Washington University	
Maturitat 1945, University of Zurich		Waldorf, Richard Dean	S.D.
License 1948, University of Geneva		A.B. 1948, University of South	
Vonmann, Ann, Prekopa		Dakota	
Vonmann, Nicholas A.	Md.	Waldron, David Louis	D.C.
S.J.D. 1953, University of Budapest,	Va.	Waldron, Mattie Alice	Va.
Hungary		Waldrop, Ethel M.	N.C.
A.B. in Govt. 1949, The George		Waken, John Fred	Md.
Washington University		Walinsky, Edward Pius	Pa.
Von Otto, Mary Eloise		Walke, Marie Estella	D.C.
Von Ruten, Marian Ann	Miss.	Walker, Roger Atkinson, Jr.	Va.
Von, Anna Maybelle	Wis.	A.B. 1936, Princeton University	
Voroney, Jean Nancy	Md.	A.B. 1944, University of Pennsylvania	N.C.
A.B. in Govt. 1949, The George	Va.	Walker, Alexander McDonald	
Washington University		Walker, Alice Elaine	Md.
Vodavsky, Kristallo	D.C.	A.B. in Govt. 1947, The George	
Vovin, Zamova Lavon	Md.	Washington University	
		Walker, Beverly Louise	Maine
W		A.B. 1941, Tufts College	
Waddell, Harold Newton		Walker, Ernest Carroll	Md.
Wade, Clarence, Jr.	Ga.	Walker, Genevieve Marie	W.Va.
Wade, Dorothy	Va.	Walker, George Abner, Jr.	D.C.
Wade, Joseph Edward	Neb.	Walker, George Edward	Va.
Wade, Patricia Ann	Md.	B.S. 1916, Dartmouth College	
Wade, Robert Rudolph	D.C.	Walker, Harold Donald	Va.
A.B. 1949, A.M. 1950, The George	Md.	A.B. 1937, The George Washington	
Washington University		University	
Wadsworth, John Russell	D.C.	Walker, Janet B.	Pa.
A.B. 1949, Brigham Young University	Nev.	A.B. 1951, Mercyhurst College	
Waff, Frances Jane		Walker, John William	D.C.
Waggoner, Carol Rice	Md.	Walker, Kaye Ann	Ta.
A.B. 1950, The George Washington	D.C.	Walker, Marion Wenona	Va.
University		B.S. 1947, Madison College	
Wagner, Evelyn Mae		Walker, Merita Harrell	D.C.
Wagner, Grace C.	D.C.	Walker, Michael Gerald	N.J.
Wagner, Donna Malin	D.C.	Walker, Patrick Henry	Md.
Wagner, Burton Jacob	D.C.	Walker, Russell Louis	Va.
Wagner, Arthur Philip	D.C.	A.B. in Govt. 1951, The George	
A.B. 1949, American University	N.Y.	Washington University	
Wagner, Frank Conrad, Jr.		Walker, William David	Va.
Wagner, George William	Mo.	A.B. 1955, Cornell University	
Wagner, Jean Leona	N.J.	Wall, Conrad Grey	Md.
Wagner, Richard	Va.	Wall, Donald Dean	Va.
B.S. 1927, United States Naval	Va.	Wall, Samuel	Calif.
Academy		B.S. 1950, Whitworth College	
A.M. in Ed. 1949, The George		Wall, Stanley James	Md.
Washington University		Wallace, Bradford Nelson	Md.
Wagner, Richard D.	Org.	Wallace, Ernestine Bruner	Ala.
Wagner, Sarah Elizabeth	Va.	B.S. 1948, Alabama State Teachers	
B.S. 1949, Salem College	Ind.	College, Troy	
Walt, William Albert	W.Va.	Wallace, Gertrude H.	Fla.
M.S. 1951, University of Colorado	D.C.	Wallace, Howard Kenneth	Tex.
Walters, Charles	D.C.	Wallace, John Henry	D.C.
A.B. 1950, The George Washington		B.S. 1948, Georgetown University	
University		Wallace, Joseph Francis	Mass.
Walters, George Theodora	D.C.	A.B. 1951, Bryn Mawr College	D.C.
A.E. 1944, College of St. Catherine	Minn.	Wallen, Andy Howard	Va.

Waller, Charlot Clay A.B. 1947, A.M. 1951, Vanderbilt University	Ky.	Ward, John Joseph B.S. 1949, University of Scranton	Tenn.
Waller, John Edgar, Jr. A.B. 1950, University of Maryland	Va.	Ward, John Wealey B.S. 1950, The George Washington University	D.C.
Waller, Lloyd Arthur Wallin, Eugene Everett B.S. 1945, Nebraska Central College	Va.	Ward, Patricia Ryan A.B. 1944, Wellesley College	Conn.
Walling, Jack Walling, Kathleen Mayton Wallis, Eunice Sarah A.B. 1942, Stanford University	Va.	Warder, Frederick Burdett Wardlaw, Gladys Anne Wardlow, Harold Vance	D.C.
Wallis, Kimball Allen Wallis, Rodman William Walls, Howard R. Walls, June Rena Sullins Walls, Samuel Charles B.S. 1944, Washington College	Calif.	Ware, Frances Lee A.B. 1940, University of Louisville	Calif.
Walnut, Aylward Jerome Walsh, Elizabeth Helen Walsh, Helen Francis A.B. in Ed. 1946, A.M. in Ed. 1947, The George Washington University	Va.	Ware, Keith Lincoln Ware, Robert Stephens Wareham, Edward Alexander III Warfield, Joseph Christian, Jr. L.L.B. 1948, University of Maryland	D.C.
Walsh, James Franklin B.S. 1946, University of Illinois	Iowa	Warfield, Rebecca Wingo Warfield, Richard Myers A.B. 1948, The George Washington University	Md.
Walsh, James Joseph Walsh, Jane Johnson A.B. 1950, Vassar College	N.J.	Warfield, Robert Welmore B.S. 1950, University of Virginia	D.C.
Walsh, John William Walsh, William Barron A.B. 1948, University of Virginia A.M. 1950, Harvard University	N.Y.	Warick, Lawrence John Waring, Joanne Parker A.B. 1950, University of Richmond	D.C.
Walter, Edith Elizabeth A.B. 1944, Randolph-Macon Women's College	D.C.	Waring, Jon Lamont Warmack, William Davies Warner, David Lennox Warner, Leah Gary Warner, Patricia Ann Gray Warner, Philip Lambert A.B. 1949, American University	Conn.
Walter, Raymond Ward, Jr. Walter, Winton Parker Walters, Frank John Walters, Ivan Tracy Walters, Jane Louise Walters, Thomas Lucian Walters, John Michall Walton, Frederick Henry, Jr. B.S. 1948, L.L.B. 1941, Georgetown University	D.C.	Warner, William Clafin A.B. 1949, The George Washington University	D.C.
Walton, Howard Lacy, Jr. Walton, Jane Dahne Waltz, Helen Kathryn A.B. 1947, Gettysburg College	Va.	Warolof, Jacqueline Ethel Warnock, Alene Moran Warnock, Charles Webster A.B. 1951, Berea College	Mo.
Walworth, Kathleen Ann Walwee, Eugenia N. A.B. 1947, Hunter College	D.C.	Warren, Audrey Louise Warren, George B.C.E. 1948, M.S. 1949, Ohio State University	D.C.
Wimplen, Frederick Clarke Winnemaker, George Finest B.S. 1947, University of Tennessee	D.C.	Warren, George Oberon Warren, Julian M. B.S. in M.E. 1940, Duke University	D.C.
Wandel, Fred Charles B.S. 1945, M.S. 1948, College of the City of New York	N.Y.	Warren, Leon Hush Warren, Lily Morris Warren, Marguerite Elizabeth Warren, Robert Willis A.B. 1949, Macalester College A.M. 1951, University of Minnesota	Pa.
Wang, David I. J. Wang, Lian-hung Wang, Tseng Fu M.S. 1949, National University of Peking	Va.	Warren, Ruth Ticknor Warren, Troy Howard Warren, Virginia Caroline Warwick, Helen Warwick, Louis Frederick Warner, Elizabeth Rouse Warthen, Thomas Vernon B.S. 1949, Washington College A.M. 1949, The George Washington University	Md.
Wang, Tso B.S. 1927, Nan Yang University, China	Tenn.	Wartowat, Marie Kaarina Warttsky, William Victor Washburn, Donald Wayne Washburn, Albert Brooks, Jr. A.B. 1940, Dartmouth College	N.Y.
Ward, Dalton Clarence Ward, Emma Jeanette Ward, Harold Miller Ward, Harry Joseph B.S. 1931, Georgetown University	N.Y.	Washburn, Gordon Lloyd Wasleski, Regina R. Wasser, Frances Ruthberg A.B. in Ed. 1947, The George Washington University	Calif.
Ward, Jack Lee	W.Va.		W.Va.



# Students Registered

565

Wasserman, Julian	N.Y.	Watson, Robert Taylor	Ind.
Wasson, Renata R.	Va.	Watson, William Hammill	D.C.
A.B. 1928, University of North Dakota		Watt, Audrey Loraine	Va.
A.M. 1910, University of Minnesota		A.B. 1949, Mary Washington College	D.C.
Watson, Robert Venson	Calif.	Watt, Ruth	D.C.
Waterman, Elizabeth Downs	W.Va.	A.B. 1949, Wellesley College	D.C.
Waterman, Guy Van Vorst	D.C.	Watts, Aubrey Dwight	D.C.
Waterman, Richard Leeman	D.C.	Watts, Harvey Franklin	Va.
Waterman, Howard Thomas	Va.	Watwood, Lynn Marion, Jr.	D.C.
Waterous, Jean Benton	Md.	Watwood, Marilyn Jean	D.C.
A.B. 1940, Mount Holyoke College		Waspoose, Richard	Wis.
A.M. 1942, The George Washington University		Wax, Andrew Paul	D.C.
Waters, Francis Marland, Jr.	Conn.	Waxman, Morris	N.Y.
A.B. 1949, Lafayette College		Way, James Leong	Calif.
Waters, Hal Preston	Md.	A.B. 1947, University of California	D.C.
B.M.E. 1946, Catholic University of America		Weare, George Cabot	Ohio
Waters, Howard Joseph, Jr.	Md.	A.B. 1949, University of Maryland	D.C.
B.S. 1951, University of Maryland		Weare, Armon Elmer	D.C.
Waters, Joe Edward	Ky.	B.S. 1936, University of Dayton	D.C.
B.S. 1950, Georgetown University		Weasmer, Charles Brent	D.C.
Waters, John Augustine	Va.	A.B. 1951, The George Washington University	
Waters, John Leonard	D.C.	Weatherford, Kathleen Patricia	British West Indies
Waters, Joyce Eleanor	Va.	Weathers, Milledge Wright	Ga.
Waters, Mildred Louise	Va.	A.B. in Govt. 1949, The George Washington University	
Waters, Rosa Lee	Md.	Weathers, Robert Burns	D.C.
A.M. 1934, Western Maryland College		B.E. 1941, Northern Illinois State Teachers College	
Washington, Harold Stanley	Md.	Weathersby, Augustus Burns	Miss.
A.B. in Govt. 1950, The George Washington University		A.B. 1938, M.S. 1940, Louisiana State University	
Watkins, Henry Lee	Va.	Weaver, Dorothy Marie	D.C.
Watkins, John Alexander	Mo.	A.B. 1918, Reed College	
B.S. 1950, University of Missouri		A.M. 1941, Mills College	
Watkins, John Montford	Va.	Weaver, Glenn Eileen	D.C.
Watkins, Lincoln Arthur	Md.	Weaver, Joseph Upton, Jr.	D.C.
B.S. 1951, University of Maryland		Weaver, Nell	N.Y.
Watkins, Nina Eileen	Va.	Weaver, Patricia Ann	N.Y.
A.B. 1950, Hillside College	Ind.	Weaver, Wallace Bruce	W.Va.
Watkins, Raymond Wesley		Weaver, William Carroll	
Watson, Agnes Ruthie	Va.	A.B. 1953, West Virginia University	
A.B. in Govt. 1950, The George Washington University	Md.	Webb, Annie Snyder	W.Va.
Watson, Bruce Parrish	Tex.	A.B. 1948, Shepherd College	
LL.B. 1947, A.B. 1951, The George Washington University	Canada	Webb, Claude Anderson, Jr.	Md.
Watson, David James, Jr.	Mich.	Webb, Edwin Yates	D.C.
A.B. 1940, M.B.A. 1941, University of Michigan		Webb, John Wesley	Md.
Watson, Dorcas Minter	Ga.	Webb, Robert Arthur	Utah
Watson, Evan William	Md.	Webb, Suzanne	D.C.
Watson, Gerald LeRoy	D.C.	Webb, Thomas Griffith	Va.
A.B. 1918, State University of Iowa	Iowa	Webb, William Forrest	Va.
Watson, James Philmore	D.C.	Webb, Arnold Linder	Wis.
Watson, Leo C.	Tex.	Ph.B. 1949, Marquette University	
LL.D. 1914, University of Bonn		A.M. 1950, Harvard University	
Watson, Milton Dearborn	N.C.	Webster, James Dewitt	Pa.
A.B. 1918, Xavier College	Md.	Webster, Leonard Joseph	Va.
Watson, Robert Carlyle	Va.	Webster, Paul	
Watson, Robert M. Collosh	Md.	B.S. in P.E. 1947, The George Washington University	D.C.
A.B. 1941, New York University		Weber, Robert Julius	D.C.
A.B. 1947, University of Michigan		B.S. 1951, Georgetown University	D.C.
A.M. 1950, University of Geneva		Weber, William Joseph Jr.	D.C.
		F.L. 1947, University of Cincinnati	
		Webster, Clark Gibbons	Md.
		Webster, Edward	Md.
		B.S. 1942, University of Maryland	
		Webster, George Armstrong	Conn.
		A.B. 1950, Yale University	
		Webster, Helen Lee	Md.
		Webster, John Clyde	Ind.
		Webster, William Harley	Md.
		Weidie, Robert Lowman	Va.



Wedel, Cynthia Clark A.B. 1929, A.M. 1930, Northwestern University	D.C.	Weiss, Herbert B.S. 1949, College of the City of New York	Md.
Wedge, John William	Nev.	Weiss, Jacquelyn Mae	D.C.
Wedgworth, Lulu May A.B. in Ed. 1928, The George Washington University	Md.	Weiss, Kenneth Floyd	Md.
Wedler, Arthur J.		Weiss, Louis	N.Y.
Weeder, Elinor Janet B.S. 1939, Wilson Teachers College	Ind.	Weiss, Rowena	D.C.
A.M. 1946, University of Virginia	Va.	B.Ch.E. 1949, Catholic University of America	N.Y.
Weedon, Peggy Laws	D.C.	Weiss, Sherwin Elihu	Calif.
Weekes, Frederic Delano B.S. in E.E. 1948, University of Pennsylvania	Md.	A.B. 1950, Brooklyn College	
Weekley, Henry Francis B.Ed. 1931, Illinois State Normal University		Weiss, Verle Elaine	Mass.
A.M. 1947, University of Pennsylvania	D.C.	A.B. 1950, Stanford University	
Weeks, Harold Eugene	N.Y.	Weissblatt, Joan	Va.
Weeks, Mary Charlotte A.B. 1942, Madison College	Va.	A.B. 1951, Mary Washington College	
A.M. in Ed. 1952, The George Washington University		Weissenberger, Walter George	Pa.
Weer, Mary Elizabeth B.E. 1943, New York State Teachers College, Potsdam	N.Y.	B.Ch.E. 1949, Georgia Institute of Technology	
Wegnick, Chester George	D.C.	Weissenstein, Clarence Harry	D.C.
Wehrstedt, George Gustav B.S. 1931, Virginia Polytechnic Institute	Md.	B.S. in Ch.E. 1939, Carnegie Institute of Technology	N.Y.
Wendemeyer, William Aubert	Va.	Weissmann, Max Ludwig	
Weisand, Robert Joseph	Md.	Weissman, Milton	D.C.
Weigel, Charles Adolph, Jr. B.S. in E.E. 1950, University of Maryland	Md.	B.Ch.E. 1949, New York University	Va.
Weil, Gerard Gordon A.B. 1948, Washington and Jefferson College	N.Y.	Weissmeyer, Jeanne Steerman	D.C.
Weiler, Herbert John	N.D.	Weiss, George	N.Y.
Weinberg, Murray	Va.	Weitzman, Mary Cohen	Mass.
Weinberger, Fanny	Md.	Weitzner, Jay Kenneth	
Weinberger, Leo Luther B.S. 1948, Georgetown University	N.Y.	Weker, Simon Louis A.B. 1934, Harvard College	Va.
Weiner, Jacob Murray	Md.	Ed.M. 1938, Boston Teachers College	
Weingarten, Hyman	N.Y.	Welbon, Dorothy Klein	D.C.
Weinglass, Leonard Irving	N.J.	B.S. 1931, University of Pennsylvania	D.C.
Weinmann, Camilla Marvin	D.C.	Welch, George, Jr.	Tex.
Weinreb, Neil Michael	Md.	Welch, H. Mason	
Weinrich, Lee Wallace	Ohio	Welch, June Ray A.B. 1950, Texas Christian University	Va.
Weinstein, Allen	D.C.	Welch, Lloyd Arthur	D.C.
Weinstein, Allen Jack	N.J.	Welch, Michael Crawley	Md.
Weinstein, Samuel	D.C.	Welch, Philip Pindell B.S. 1938, United States Naval Academy	Pa.
Weinstock, Harold B.S. 1947, New York University	N.Y.	Weller, Robert Welsh	Va.
L.L.B. 1950, Harvard University		Welles, Richard Henry	D.C.
Weintraub, Leo Martin	D.C.	Wellington, Benjamin A.B. in Govt. 1950, The George Washington University	Va.
Weisberg, Lydia Elaine	D.C.	Wellington, Marjorie Webber A.B. 1931, Brown University	N.Y.
Weisblatt, Irving	D.C.	Ed.B. 1934, Rhode Island College of Education	
Weisbroad, Fred Edgar	Md.	Wellington, Peretz A.B. in Govt. 1950, The George Washington University	Md.
Weise, Allen Gardner B.S. 1948, The George Washington University	N.Y.	Wells, Edmund John, Jr. B.S. 1948, M.S. 1951, The George Washington University	Ohio
Weise, Ernest Lyman B.S. 1938, The George Washington University	D.C.	Wells, Elwood C.	Va.
Weisenberg, Joseph Oscar B.S. 1940, Rockhurst College	D.C.	Wells, Glenn Sherman B.S. 1949, Madison College	Ky.
M.S. 1947, California Institute of Technology	Md.	Wells, Rebecca Roe	Mich.
Weiss, David Keifer		Wells, Robert Oscar, Jr. A.B. 1952, The George Washington University	Md.
Weiss, Egon Hans A.B. 1949, Brooklyn College	D.C.	Wells, Sidney Deeds, Jr. Ph.B. 1939, University of Wisconsin	Wis.
M.S. 1950, Brown University	Md.	Wells, Charles George B.S. 1949, University of Wisconsin	N.J.
		Wellwood, Robert Edward A.B. 1950, Columbia College	Va.
		Welsh, John M.	
		Welsh, Mary Kathleen	

# Students Registered

567

Weldans, Frecl Gardner A.B. in Ed. 1917, Shepherd College A.M. in Ed. 1951, The George Washington University	W.Va.	Wexler, Hilda A.B. 1936, New York University	Md.
Wendell, Harold Gilbert A.B. 1937, A.M. 1939, University of South Dakota	Md. S.D.	Weyburn, Robert Oliver B.S. 1942, Mississippi State College	Miss.
Wenger, John Frederick B.S. 1924, A.M. 1940, University of Virginia	Pa. Va.	Whalen, John Bernard Whaley, Mary Virginia A.B. in Ed. 1949, The George Washington University	Va. W.Va.
Wenger, Rene Lawrence B.S. 1924, A.M. 1940, University of Virginia	Pa. Va.	Whann, Matilda Zench Wheaty, Katherine Dennin	Md. Va.
Wenger, William Fred Wenton, Henry William	Va. Wis.	Wheeler, Donald Charles Wheeler, Edna Boly	Md. D.C.
Wentland, Alfred Wentz, Louis Mae	D.C. Va.	Wheeler, Herbert William B.S. 1951, University of New Hampshire	N.H.
Wentz, Yvonne Lorraine Werbow, Farrell Roy B.S. 1951, The George Washington University	Va. D.C.	Wheeler, John Dixon, Jr. Wheeler, Mary Starr A.B. 1916, Wellesley College LL.B. 1949, The George Washington University	Va. Conn.
Werdz, Robert Martin, Jr. Wesley, Harnet Helen	D.C. Pa.	Wheeler, Richard E. Wheeler, Thomas Ellis	Md. Ga.
Werner, Alice Crane Werner, George Henry B.M.E. 1940, The George Washington University	N.J. Md.	B.S. 1949, Mount St. Mary's College Wheeler, William Alton	D.C. Ind.
Werntr, Carl Weber Wertenbrecht, Mary Claire	D.C. D.C.	Wheelock, Kenneth Ervin Wheelwright, Charles Dewey B.S. 1951, University of Maryland	D.C. D.C.
Wess, Richard B.S. 1941, A.M. 1942, Columbia University	Va.	Whelen, James William Wherry, David Colwell A.B. 1949, The George Washington University	Mass. Nebr.
Wetherm, Ellen Erna Wetherm, Richard Frederick LL.B. 1912, Vanderbilt University	D.C. D.C.	Whitacre, Frank Lee A.B. 1937, Shepherd College	Va.
Wertz, Alice Dianne A.B. 1951, Radcliffe College	Ohio	Whitaker, Doris Aileen A.B. 1943, Southern Methodist University	Md.
Wertz, Leonard Walter Wertz, Theodore Howard B.S. 1929, Pennsylvania State Teachers College, Westchester	Md. D.C.	Whitcomb, Ernest Randolph B.S. 1950, University of Florida	Fla.
A.M. 1954, University of Alabama		Whitcomb, John Fredric, Jr. White, Alfred Lawson	D.C. D.C.
Wesley, Mary Ann Wesper, Willis Henry	D.C. N.J.	White, Charles Adams White, Doris Virginia	Va. Va.
West, Donald Joseph B.S. 1949, Georgetown University	D.C. Va.	B.S. 1949, Madison College White, Edwin Borden, Jr.	Fla.
West, Ernest Paul Wett, Genevieve Lillian	D.C. D.C.	A.B. 1944, Emory University White, Eliza Bryan	Fla.
Wett, George William Wett, Jean Haywood A.B. 1919, Radford College	N.Y. Md.	White, Ernest Leroy White, Foster Lee	Md. La.
Wett, Marc Lee B.S. 1948, The George Washington University	Va.	B.S. 1942, University of Oklahoma M.S. 1946, Tulsa University	
Wett, Melissa B.S. 1937, A.M. 1940, University of Minnesota	D.C.	White, Frances Lamer White, George Ehardt White, Horace Walter, Jr. A.B. 1957, The George Washington University	W.Va. Md. Calif.
Wett, Norman Ariel A.B. 1940, University of Richmond	Minn.	White, Jane Bethel White, Jane S.	Va. D.C.
Wett, Robert Harlow Wett, William Donald B.S. 1942, Georgetown University	Va. D.C.	White, John Bridgers A.B. 1934, Harvard University	D.C.
Wetbrook, William Hughes Wetmore, George Godfrey	Va. Pa.	White, Joseph Thomas White, Katherine Luis	Va. D.C.
Wetmore, Raymond Arthur Wetmore, Basil Maxwell	N.Y. Va.	White, Margaret Anne White, Raymond Vernon	D.C. D.C.
Wetmore, Andrew Robert Wetmore, William Arthur B.S. in M.E. 1947, Princeton University	D.C. W.Va.	B.S. 1950, Memphis State College White, Robert Bollenhine	Tenn. D.C.
Wetmoreland, Robert Norman Wetherbee, Fairland Henry	Va. D.C.	White, Robert M. Kay B.S. 1950, Albright College	D.C.
	Md.	White, Suzanne White, Theodore Greenleaf, Jr. B.S. 1936, University of Washington M.S. 1949, University of Michigan	Ill. Iowa
		White, Ware Wolfe Whithead, John Nelson	N.C. Ohio



Whitehead, Roger Donald	Calif.	Wiggins, John Russell	D.C.
Whiteley, Andrew Bathke	Va.	Wiggs, Deems Norwood	N.C.
Whitener, Thomas Grady	Va.	B.S. 1950, M.S. 1952, The George Washington University	Va.
Whitenight, Daniel Newton	D.C.	Wight, Arianna Randolph	Maine
Whitescarver, Kenneth Tyree, Jr.	Va.	Wight, Nelson Grady	Me.
A.B. 1947, Hardin-Simmons University	D.C.	Wightman, Gene F.	D.C.
Whitesell, Joseph A.	D.C.	Wignaraja, Suntharie	D.C.
Whitesell, Harry Sellers		A.B. 1949, University of Ceylon	
A.B. 1938, A.M. 1940, The George Washington University	Va.	Wigren, Lloyd Ethan	Mass.
Whitesides, Nettie Jane	Md.	A.B. 1939, Columbia University	Mo.
Whites, Harry Thomas	D.C.	Wilansky, Donald Marc	D.C.
Whitley, William White		Wilborn, Dorothy Mae	Md.
A.B. 1939, University of North Carolina	N.J.	Wilbur, Dorothy Finley	Iowa
Whitlock, Charles Barton	D.C.	Wilbur, Glenmore A.	
Whitlock, Elmer William, Jr.	N.C.	A.B. 1947, University of Washington	
Whitman, Charles Edward	Md.	Wilbur, William Melvin	Va.
Whitman, Cordie Arbutus	Va.	A.B. 1951, Buena Vista College	D.C.
Whitmore, Charles Warren		Wilcox, Audrey Reid	
M.D. 1947, University of Virginia	Nev.	Wilcox, Carolyn Sylvia	Va.
Whitmore, Daniel Norman	Md.	A.B. 1941, Rockford College	
Whitmore, Ellen Christine		Wilcox, George Ansley	
A.B. in Ed. 1948, Mary Washington College	Va.	B.S. 1932, Georgia Institute of Technology	Va.
Whitmore, Mary Ursula		Wilcox, Robert Gordon	N.Y.
B.S. in Ed. 1935, Massachusetts State Teachers College, Salem	Va.	Wilder, Leo	
Whitmore, Robert Olin	Va.	B.M.E. 1949, College of the City of New York	Va.
Whitney, Courtney, Jr.		Wildman, Frederick D.	D.C.
A.B. 1949, Yale University	Va.	A.B. 1948, Bowdoin College	
Whitney, George Ward	N.Y.	Wildman, Janet	Me.
B.E.E. 1949, Rensselaer Polytechnic Institute	D.C.	A.B. 1951, The George Washington University	
Whitney, Joseph Roland		Wiley, Elizabeth Lee	Pa.
B.S. 1945, University of Minnesota		A.B. 1950, Western Maryland College	D.C.
A.B. in Govt. 1950, The George Washington University	D.C.	Wiley, Myrta Ellen	D.C.
Whitney, Molly Edith	Mass.	Wilhelm, Harry Wesley	D.C.
Whitney, Norman Edward	Va.	Wilhelm, Mary Ida	Va.
Whitsitt, Virginia Marie	Md.	Wilkinson, Clarence Walton	Iowa
Whitt, Gordon Alfred		Wilkerson, Jean Hopkins	D.C.
A.B. in Govt. 1940, The George Washington University		B.S. 1947, Mary Washington College	Md.
Whitten, Virginia Snow	R.I.	Wilkerson, Marjorie Marie	
A.B. 1945, Bridgewater College	D.C.	Wilkes, Betty May	D.C.
Whittenburg, Lillian May	Va.	Wilkes, Charles Latimer	Va.
Whittington, Dortha Betty	Md.	A.B. 1950, Dartmouth College	
Whittington, Helen Vierling		Wilkes, James Claiborne, Jr.	
A.B. 1939, Columbia University	Ind.	A.B. 1950, Dartmouth College	
Whittington, Lester W.	N.C.	Wilkinson, Richard Sterling	Va.
Whittington, Margaret Helen		A.B. 1949, The George Washington University	
B.S. in Mus. 1934, Meredith College		Wilkschire, Donald Thomas	Pa.
Whittington, Mary Louise	Wyo.	D.C.S. 1950, Temple University	W.
Whittington, Otto Wiseman	Tex.	Will, David Edwin, Jr.	
B.S. in P.A. 1951, University of Arkansas		A.B. 1950, Hanover College	Va.
Whitworth, Donald Phillip	D.C.	Will, Joyce Ruth	N.J.
Wibrew, Waldo Ematt	D.C.	A.B. 1950, Valparaiso University	
B.S. in Ed. 1930, Northeast Missouri State Teachers College	Indonesian	Willcox, Ralph Emerson	Md.
Wibowo	Mo.	Willcox, Arvid Carl	
Wickline, Harry F.	N.Y.	B.S. in Eng. 1948, Brown University	D.C.
Wieder, Ronald	Wis.	Willens, Anita June	Va.
Wielepschutz, Edwin Alfred	Ill.	A.M. 1949, New York University	N.J.
Wiener, Harvey		Willett, Marie Louise	
A.B. in Ed. 1951, The George Washington University	D.C.	Williams, James Breaust	Va.
Wiener, Janet I.	Va.	Williams, Anne Louise	
Wiener, Ralph Henry		A.B. 1948, Mary Washington College	
A.B. 1951, American University	Va.	Williams, Bolling Gay	Va.
Wiggins, Janet Margaret		A.B. 1941, University of Richmond	
		Williams, Bonnie Lee	Tex.
		B.S. in C.E. 1953, Virginia Polytechnic Institute	
		Williams, Bruce Harold	
		B.S. 1914, Southwest Texas State Teachers College	
		Ed.M. 1938, University of Texas	



# Students Registered

569

Williams, David Hope B.S. 1951, Alabama Polytechnic Institute	Ala.	Williams, Willis Rankin Williamson, Robert Burns A.B. 1947, University of Texas A.M. 1951, The George Washington University	Va. Tex.
Williams, Dorothy Lee	Va.	Willier, Lillian E. Willford, Faye Marie B.S. 1946, East Carolina Teachers College	D.C. D.C.
Williams, Dwight Lincoln	R.I.	Williamham, Alton Russell Williamham, Charles A. A.B. 1950, Olivet Nazarene College	Va. Mo.
Williams, Earl, Jr. B.S. in P.E. 1951, The George Washington University	Ill.	Willis, Bennett, Jr. L.L.B. 1941, The George Washington University	Va.
Williams, Edward Allan A.B. 1947, Princeton University	Md.	Willis, Harold Robert Willis, Shirley Frances Willner, Abner Robert B.M.E. 1948, Brooklyn Polytechnic Institute	D.C. D.C. Md. N.Y.
Williams, Eleazer Andrews Williams, Elma Williams, F. Jean B.S. 1948, Catholic University of America	Mass.	Willoughby, Nancy Sue Willis, Bernard Edwin Willson, Robert Crompton A.B. 1951, The George Washington University	Va. D.C. Va.
Williams, George Costin Williams, M.A. 1949, Columbia University	W.Va.	Wilson, Alexander Bernard Wilson, Benjamin James A.B. 1941, M.S. 1947, West Virginia University	Mass. Md.
Williams, George Telford Williams, Gerald Lester Williams, Harold Patterson Williams, Harold Tyson Williams, Henry Newton B.S. 1947, Middle Tennessee State College	D.C. D.C. Wash. Md. D.C. Tenn.	Wilson, Betty Louise Wilson, Byron Kent A.B. 1946, Arkansas State Teachers College A.M. in Govt. 1950, The George Washington University	Md. Va. Va.
Williams, James Albert Williams, James Durward, Jr. Williams, James Otto Williams, Jay Wheldon Williams, Jeanette Kelly Williams, John, Frank B.S. in Ed. 1946, Wisconsin State Teachers College, Eau Claire	N.Y. D.C. Ga. Pa. N.C. Tex. Md.	Wilson, Charles Edward Wilson, Dale Bernich Wilson, Dyer Pinkney, Jr. Wilson, Edward Jay Wilson, George Robert, Jr. Wilson, George S. B.S. 1948, Kansas State Teachers College, Pittsburg	Va. D.C. Ala. Pa. Va. Kans.
Williams, John Mitchell Williams, John Oscar, Jr. Williams, Leonard Williams, Lurion H. Williams, Margaret Goodwin Williams, Marion Louise Williams, Michele B.S. 1948, The George Washington University	Tex. Va. Pa. D.C. Md. D.C.	Wilson, George West Wilson, Helen Kathryn Wilson, Henry Charles Wilson, Howard Wilson, Howard Eugene Wilson, Jack L.L.B. 1936, University of Tennessee	Md. Pa. D.C. D.C. Mont. Tenn.
Williams, John Oscar, Jr. Williams, Leonard Williams, Lurion H. Williams, Margaret Goodwin Williams, Marion Louise Williams, Michele B.S. 1948, The George Washington University	Iowa Tex. D.C.	Wilson, Jack Herbert A.B. 1950, University of Oklahoma Wilson, James Frederick Wilson, James Howie A.B. in Govt. 1950, The George Washington University	Okla. D.C. D.C.
Williams, Rayburn Albert B.S. 1949, Lynchburg College Williams, Richard Edward Williams, Richard Gates B.S. 1947, United States Military Academy	Va. Pa. D.C.	Wilson, James Norman Wilson, Jeanne Claire Wilson, Jeanne Nantz Wilson, Jesse Lee Wilson, Joyce Jane Wilson, Leo Earl B.S. in E.E. 1948, Carnegie Institute of Technology	Ala. Va. Va. Mo. N.Y. D.C.
Williams, Richard Ray Williams, Robert Williams, Robert Leslie Williams, Ross Runson B.S. 1948, University of Pennsylvania Williams, Thomas Nottingham, Jr. Williams, Wilfred Stanton B.S. 1947, University of Southern California	D.C. Ohio Va. Md. N.Y.	Wilson, Marian Sue Wilson, Paul Randolph A.B. in Govt. 1949, The George Washington University	Va. D.C.
Williams, Wilfred Stanton B.S. 1947, University of Southern California Williams, Wilfred A.B. in Govt. 1950, The George Washington University	Calif. Va.	Wilson, Raymond Boyd Wilson, Robert Whitwell Wilson, Ruth Whitfield Wilson, Thomas Edwin	Nebr. Va. D.C. Ill.

Wilson, Wilfrid Arthur Neil	Md.	Wodinsky, Isidore	
Witt, Elizabeth Tudor	Va.	A.B. 1939, Brooklyn College	
B.S. 1943, Madison Teachers College		M.S. 1951, The George Washington University	N.Y.
A.M. in Ed. 1951, The George Washington University			N.Y.
Wimberly, Jewel	D.C.	Wohl, Paul	
A.B. 1941, Louisiana State Teachers College, Natchitoches		Wohlleben, William McNulty	D.C.
Winans, Julia Adelaide	D.C.	B.M.E. 1942, Clarkson College of Technology	Va.
Winchester, James William	D.C.	Woidich, Francis de Sales	Pa.
Winchester, Mary Love	Va.	B.S. 1948, Harvard University	Mass.
Windecker, Louis Edwin	N.J.	Woolke, John Oliver	N.J.
Windmeland, Einar	Va.	Wojcik, Irene C.	Md.
A.B. 1940, North Dakota State Teachers College, Minot		Wojtkowski, Thomas Casmere	Md.
Windsor, Benjamin Rutherford		Wostowicz, Jan, Jr.	N.J.
B.S. 1929, University of Illinois		Woff, Alfred	D.C.
Wine, Joseph Raymond, Jr.	Mont.	Woff, Frank George	Pa.
L.L.B. 1948, A.B. 1951, University of Montana		Woff, Gustave William	
Winegar, Herbert Joseph	N.Y.	Woff, Richard Marvin	D.C.
B.E.E. 1950, Cornell University		Woff, Ronald Wenger	
Winer, Alfred Dennis	Mass.	A.B. 1951, Lebanon Valley College	D.C.
M.S. 1948, Purdue University		Wolf, Zev Leopold	D.C.
Winfrey, Charles Robert	W.Va.	B.S. 1951, Northwestern University	W.Va.
A.B. 1950, Shepherd College		Wolfe, Burton Harold	D.C.
Wingate, Beverly Randolph	Va.	Wolfe, Eugene Noel	Pa.
Wingert, James Watt	Wis.	A.B. 1950, The George Washington University	Wash.
B.S. 1951, University of Wisconsin		Wolfe, George Paul	
Wingo, Walter Scott	D.C.	Wolfe, Grace Hastings	
Wisk, Linus John	Md.	Wolfe, Sterling Robert	D.C.
Winkler, Arthur William	Ill.	A.B. 1948, Whitman College	
Winkler, Jennie Nolan	D.C.	M.B.A. 1949, Harvard University	N.Y.
Winkler, Joseph Fred	Md.	Wollerson, Jay Warren	
Winstow, Jeanne Patricia	Va.	A.B. 1948, The George Washington University	
Winstow, Vanchin Bradford	D.C.	Wolff, Catherine Jean	D.C.
Winstead, Thomas Tennyson, Jr.	D.C.	A.B. 1950, The George Washington University	
Witter, Lewis Jasper	Okla.	Wolff, Louis	D.C.
B.S. 1942, The George Washington University		A.B. in Govt. 1949, The George Washington University	N.Y.
Wirt, John Alvin	Va.	Wolff, Beverly Ann	Pa.
Wirth, Mary C.	France	Wolff, Isabel Elaine	
Wiseman, Kate Cooper	Ark.	A.B. 1945, Hunter College	Pa.
B.S. 1954, University of Arkansas		Wolke, Jacob Alred	N.Y.
Wisher, Helen Ann	Va.	A.B. 1942, University of Pennsylvania	
Wissner, Carl Edward, Jr.	Va.	Wolton, Harold Frank	D.C.
Wisswell, Mary Anne Stevenson	Va.	Wolman, Harold	
Witcoll, Sheldon William	Md.	B.S. 1942, College of the City of New York	
B.S. 1949, University of Maryland		Wolman, Miriam	
Witham, Robert Carey	D.C.	Wolensky, Hyman	
A.B. in Govt. 1950, The George Washington University		A.B. 1947, College of the City of New York	
Withers, John Lewis	N.C.	A.M. 1948, Columbia University	
B.S. 1947, Davidson College		Wolozin, Robert	
A.M. 1941, University of North Carolina		Wolpe, Norman Thelma	
L.L.B. 1950, The George Washington University		Wolpert, Samuel Albert	
Witherspoon, Fred Lee, Jr.	Md.	B.S. 1950, University of Maryland	
B.S. in M.E. 1941, University of Maryland		Wolter, Elizabeth B.	
Witkin, Eugene	D.C.	Womack, Herman Lynn	
A.B. 1957, The George Washington University		A.B. 1949, The George Washington University	
Witkin, Lloyd Benjamin	D.C.	Womack, Helen	
B.S. 1949, Louisiana Polytechnic Institute		Womack, William Lancelen	
M.S. 1951, The George Washington University		B.S. 1951, Duke University	
Witkowski, Walter Phillip	Mass.	Womeldorf, George Raymond, Jr.	
Wittmer, Carolyn Jo	Md.	Wong, Eugene	
Wnek, George	Wis.	Wong, Hoon Ping	
		Wong, James K.	
		Wood, Basil Alexander, Jr.	
		B.S. 1948, University of North Carolina	
		Wood, Carolyn Diana	



# Students Registered

571

Wood, Charles Wallace	D.C.	Wortman, David Morris	Md.
Wood, Douglas Finch	N.Y.	A.B. in Govt. 1948, The George Washington University	
Wood, 1944, Harvard University	D.C.	Woytorech, Helen	D.C.
Wood, Edson Charles	Va.	Woytorech, Joseph	Pa.
Wood, George S.		Wozencraft, Frank W.	D.C.
B.S. 1938, L.L.B. 1948, University of Virginia		A.B. 1913, L.L.B. 1914, University of Texas	
Wood, Gloria M.	Md.	Wozencraft, Mary Victoria	D.C.
Wood, Harry Eugene	S.C.	A.B. 1922, Vassar College	
Wood, James Henry, Jr.	Va.	Wreck, George	Wis.
Wood, Julia Burton	D.C.	Wren, Donald George	Mo.
Wood, Lester Orin	Md.	Wren, Edgar Alban	Pa.
B.S. 1931, United States Naval Academy		A.B. 1917, University of Scranton	
Wood, Margaret Jones	Va.	L.L.B. 1948, Georgetown University	
Wood, Noah Preston, Jr.	Okla.	Wren, Willard Wayne	Va.
B.S. 1936, University of Oklahoma		Wright, Annie June	Maine
Wood, Patricia Lee	D.C.	Wright, Burton	Wash.
B.S. 1951, Wilson Teachers College		B.S. 1947, M.S. 1949, University of Washington	
Wood, Robert Ambrose	D.C.	Wright, Charles Gordon	D.C.
A.M. 1948, The George Washington University		Wright, Dale Alan	Pa.
Wood, Stella Draper	Ind.	B.S. 1948, Carnegie Institute of Technology	
Wood, Thomas Bennett	Tex.	Wright, Dulson Houston	D.C.
Wood, Walter Henderson	N.Y.	B.S. 1949, Louisiana College	
B.S. 1950, Manhattan College		A.M. 1948, The George Washington University	
Woodard, Joseph Harold	Md.	Wright, David L.	Pa.
Woodard, Woodrow Wilson	N.Y.	B.S. 1949, M.S. 1951, Pennsylvania State College	
B.M.E. 1946, North Carolina State College		Wright, Elizabeth Truman	Va.
Woodring, Anne Owen	D.C.	A.B. 1934, Allegheny College	
A.B. 1937, Dartmouth College	Del.	Wright, Flor Alma	D.C.
Woods, Lucy Brooke		Wright, John Grant	Tex.
A.B. 1951, Mary Washington College	Va.	B.B.A. 1949, Southern Methodist University	
Woods, Luciline	Mo.	Wright, Katherine Louise	Ill.
Woods, Raymond DeHaven	Va.	A.B. 1946, De Pauw University	
Woods, Byron Crosby	Va.	Wright, Leonard Townsend	Pa.
A.B. 1942, University of Mississippi	Calif.	B.S. 1948, M.B.A. 1949, Syracuse University	
Woodward, Barbara Ann	D.C.	Wright, Lonetta Shepherd	Pa.
Wood, Ellis Adson	Tenn.	A.B. 1947, University of Pennsylvania	
A.M. 1951, Vanderbilt University		Wright, Spencer Harvey	Md.
for Teachers		B.S. 1949, University of Maryland	
Woods, Ronald Harlan, Jr.	Va.	Wright, Talbot M.	Md.
Woods, Phyllis Joan	Va.	Wright, Walter Caldwell, Jr.	N.J.
Woods, William Abbott	Va.	A.B. 1937, Duke University	
Woods, Alan Reesor	D.C.	L.L.B. 1949, Temple University	
Woods, Ben Harold	D.C.	A.M. 1950, University of Pennsylvania	
Woods, Rosanna G.	Va.	L.L.M. 1951, Yale University	
Woods, Maxwell Pittsworth		Wu, Ta Chao	D.C.
A.B. 1948, Stanford University	R.I.	Wulf, James Theodore	Calif.
Woods, Ruth Conant	Va.	Wulf, Pearl Elizabeth	Ind.
Woods, Margaret Richardson	Nebr.	Wurzer, Rose Ayres	D.C.
B.M.A. 1950, Eastman School of Music		Wyant, Thomas Frederick	D.C.
Wolfe, George Arthur		Wyke, Benjamin Walker III	Va.
Wolfe, George		B.S. 1941, Virginia Institute of Technology	
Wolfe, George Samuel	Md.	Wyckley, Herbert Alan	Md.
A.B. 1951, The George Washington University		A.B. 1946, A.M. 1948, University of Pennsylvania	
Wolfe, Charles Harry	D.C.	Wyckoff, Mary Margaret	Md.
Wolfe, Norma Faye	D.C.	A.B. 1944, University of Wisconsin	
Wolfe, Elaine	Va.	Wyckoff, John William	Ohio
A.B. 1948, Pennsylvania State College	Pa.	Wyner, Robert Lee	N.Y.
Wolfe, Francis Reed Williams		Wyeth, George Austin	Md.
B.S. 1947, United States Naval Academy		A.B. 1917, Yale University	
Wolfe, George Millicent			



Wynod, Catherine A.B. 1950, The George Washington University	D.C.	Yochelson, Aaron Yocum, Myron Clair, Jr. B.S. 1950, The George Washington University	D.C. Pa. Del.
Wyman, Barbara Davis	Ill.	Yoder, Paul Timothy B.S. 1950, Eastern Mennonite College	Ill.
Wyman, Charles Malcolm	D.C.	York, Edgar Duane	D.C.
Wyman, William Ross	Kans.	York, Emil Conrad	D.C.
Wymore, Max Lee B.S. in Ch.E. 1947, University of Kansas		York, Jack	Japan
Wynkoop, Joyce Heiskell	D.C.	York, Robert Lamar	D.C.
Wynn, Jane Cromer	D.C.	Yoshida, Kazuto A.B. 1951, Tokyo University	D.C.
Wywill, Mildred Ellen	D.C.	Yoshoka, Pauline A. Yost, Lenna Lee	Ill.
	X	Young, Arthur Judson	Pa.
Xavier, Miriam Cardoso	Va.	Young, Betty Ramsey	N.Y.
	Y	Young, Charles Edward	Va.
		Young, David B.M.E. 1949, Cooper Union	Va.
Yadao, Elias Perfecto A.B. 1940, University of Hawaii	Hawaii	Young, Edward MacConnell A.B. 1941, University of Pittsburgh	D.C.
Yager, David Eugene	Va.	Young, Edward William B.E.E. 1942, University of Detroit	Va.
Yager, Elizabeth Ann	Ky.		Mich.
Yalom, Irvin David	D.C.	Young, Geoffrey	
Yalom, Isador David B.S. 1948, The George Washington University	Md.	Young, George Wesley, Jr. Young, Irene Bennett A.B. 1950, College of William and Mary	Maine
Yalom, Ruth	D.C.		
Yannella, Anthony	Va.	Young, John Thomas A.B. 1950, University of Maine	Va.
Yanniello, William Gerald	N.J.	Young, John Wesley, Jr. A.B. 1945, Albright College	Pa.
Yaplee, Benjamin Soong B.S. in E.E. 1947, University of Washington	Wash.	Young, Joseph Roy A.B. 1943, B.L. 1949, University of Pennsylvania	Va.
Yarbrough, Helen Louise B.S. 1943, Tennessee State College	Md.		Ill.
Yarborough, Irma Juanita A.B. 1940, Louisiana Polytechnic Institute	La.	Young, Kharmin Hudson Young, Marguerite Louise A.B. 1943, A.M. 1943, University of Wisconsin	Ohio
Yarbrough, Joseph Benjamin III B.S. 1941, The George Washington University	D.C.	Young, Marilyn June A.B. 1950, Ohio State University	Ohio
Yarimbiyik, Mahir	Turkey	Young, Mary Catherine	D.C.
Yarus, Herbert Simpson	D.C.	Young, Mary Elizabeth	D.C.
Yates, Edgar, Jr.	Tex.	Young, Norma Elizabeth	Kans.
Yates, Ferdinand D.	D.C.	Young, Norma Helen	Ohio
Yates, Harvey Atwill	D.C.	Young, Norma Jean	
Yates, Maida Marie	D.C.	Young, Regina M. B.S. 1950, Ohio State University	
Yates, Samuel	Md.	A.M. in Govt. 1945, The George Washington University	Pa.
Yates, William Avery, Jr.	Va.		Del.
Yeager, F. Agnes A.B. in Ed. 1939, University of California	Va.	Youngs, Thomas William Youngs, Vernon Cole	D.C.
A.M. in Ed. 1951, The George Washington University		Youngs, William Lowell A.B. 1949, Bridgewater College	D.C.
Yeager, Philip Brand A.B. 1939, University of Arizona	Va.	Youngblood, Ernest Earl	N.J.
Yeatman, Jane Blair A.B. 1939, Mary Washington College	D.C.	Younge, William Pace	D.C.
Yednock, Esther Mary	D.C.	Younge, Joseph Patrick, Jr. A.B. 1947, University of Miami	
Yednock, John Joseph	Pa.	A.M. 1948, Gallaudet College	
Yee, Ernest Goy Sing	Ohio	Younger, Linda Adel	Pa.
Yee, Lincoln Gin Sing	Ohio	Younger, Myra	Pa.
Yeldell, Fanny Fay A.B. 1942, University of Texas	Tex.	Yount, Isabelle Henkel B.S. 1949, Wilson Teachers College	Pa.
Yen, Helen Chiang-Ying B.S. 1950, Ohio State University	China	Yowarsky, Walter Robert Yowell, Eunice Inez	Pa.
Yeomans, Alice Virginia B.S. 1946, New Jersey State Teachers College	N.J.	Ywart, Riley Moore A.B. 1949, Goucher College	Pa.
Ed.M. 1950, Duke University			
Yim, William Harry	Hawaii	Yu, David Yudkowsky, Elias Benjamin	N.
A.B. 1949, University of Hawaii		Yudkowsky, Kalmon R.	
Yokum, Cellie Marie	W.Va.	Yuhas, Frank Eugene Yuhas, Olga	

# Students Registered

573

Yull, Charles Walter, Jr. A.B. 1951. The George Washington University	Tex.	Ziegler, Herman Joseph A.B. in Govt. 1951. The George Washington University	N.J.
Yurow, John Jesse	D.C.	Ziegler, Levern Landis	Va.
Yurow, Victor Roy	D.C.	Ziesler, Norman Gene	D.C.
		Ziehl, Roland Charles	Wis.
		Ziehl, Wilbur Henry	Wis.
		A.B. 1949. The George Washington University	
Z			
Zablosky, Mae Lucretia	D.C.	Zigmond, Faye	D.C.
Zach, George William	Calif.	Zimberg, Isabelle	D.C.
Zachary, Dan Anthony	D.C.	Zimmer, Alan Joel	D.C.
A.B. 1945. Northwestern University		Zimmer, Arthur Robert	Va.
Zadeau, Marga Zita	D.C.	A.B. 1951. American University	
Zadman, Aram	R.I.	Zimmer, Richard Gordon	Del.
A.B. 1951. University of Cairo	Va.	Zimmerly, Phyllis Jean	Ill.
Zahn, Joseph	D.C.	Zimmerman, C. Gaylord	Md.
B.S. in C.E. 1918. Cooper Union		Zimmerman, Conrad Hall	Va.
Zalus Pearl Lee	Md.	A.B. 1949. Transylvania College	
Zamanakos, Arthur Stergios	Va.	Zimmerman, Emile Louis	Va.
A.B. 1950. Boston University		Zimonek, Helen M.	D.C.
Zamansky, Eleanor Belle	D.C.	Ziobro, Stanley Robert	Va.
Zamansky, Paula Elaine	D.C.	B.S. in P.E. 1942. A.M. in Ed. 1949.	
Zander, Frederick George	Md.	The George Washington University	
Zang, Cosmo Damien	D.C.	Zupel, Anne Elizabeth	Va.
A.B. 1951. St. Francis College	D.C.	A.B. 1951. Mary Washington College	
Zell Thomas Lane	D.C.	Zutmore, Jeanne Carol	Md.
Zell Lawrence Irving	D.C.	Zutmer, Nelson Fenley, Jr.	Conn.
Zepas Theodore N.	D.C.	Zozarski, Howard Francis	
Zepur, Elsie Marguerite	D.C.	B.S. 1949. University of Maryland	
Zepur, Edison Vladimiro	Minn.	Zohy, Genevieve Virginia	Va.
A.B. 1940. National School of Commerce, Paraguay	Paraguay	Zolyak, John	Pa.
A.M. 1951. The George Washington University		Zook, Benjamin Martin	Tenn.
Zel Billy Reid	Va.	A.B. 1949. Harvard University	
Zelner Philip M.	N.Y.	Zoslow, Harold Marvin	D.C.
Zeller, Edgar London	Va.	Zubeck, John Thomas	Pa.
Zeller, Joanna Elizabeth	Ill.	A.B. 1951. The George Washington University	
Zeller, Raymond Edward		Zubovic, Peter	Pa.
A.B. 1950. Harvard University		B.S. 1949. Pennsylvania State Teachers College, Shippensburg	
A.M. 1951. University of Chicago		Zuckerman, Martin Jay	D.C.
Zeller, Helen Fay	D.C.	Zudin, Aleksei Aleksandrovich	D.C.
Zeller, Shirley Gail	N.J.	Zuendel, Carl Sherman	Pa.
Zeller, Ernest Jerome	Wis.	Zupel, Mary Jean	D.C.
B.S. 1941. United States Naval Academy		A.B. 1951. The George Washington University	
Zeller, Edna Grace	Va.	Zuke, Walter	D.C.
Zeller, Bernard	D.C.	B.S. 1948. Albright College	
B.S. 1949. Syracuse University		Zurad, Bruno Hyacinth	Ill.
B.S. 1949. University of Cincinnati	Va.	Zurawski, Lucia Ruth	N.Y.
Zell James	Md.	Zverga, George Francis	Md.
A.B. 1948. Middlebury College	Va.	B.S. 1951. Mount St. Mary's College	
A.B. 1943. Syracuse University	N.Y.	Zwolinski, Richard Mark	N.Y.
Zemundak, John James	Wis.	B.S. 1948. Canisius College	
Zern, Lloyd Lynn		L.L.B. 1951. Georgetown University	
E.S. in M.F. 1950. Purdue University		Zyblat, Chester Anthony	Ill.
		A.B. 1950. De Paul University	

# SUMMARY OF REGISTRATION \*

1951-52

## THE JUNIOR COLLEGE

	Men	Women	Total
Freshmen .....	655	555	1,210
Sophomores .....	878	489	1,367
	<u>1,533</u>	<u>1,044</u>	<u>2,577</u>

## COLUMBIAN COLLEGE

Juniors .....	131	159	290
Seniors .....	297	206	503
Candidates for the degree of Master of Arts .....	324	126	450
Candidates for the degree of Master of Science .....	135	19	154
Unclassified .....	8	16	24
	<u>895</u>	<u>526</u>	<u>1,421</u>

## THE GRADUATE COUNCIL

Candidates for the degree of Doctor of Philosophy ...	121	23	144
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## THE SCHOOL OF MEDICINE

First Year .....	88	2	90
Second Year .....	82	1	83
Third Year .....	89	4	93
Fourth Year .....	83	2	85
	<u>342</u>	<u>9</u>	<u>351</u>

## THE LAW SCHOOL

First Year .....	648	43	691
Second Year .....	308	20	328
Third Year .....	293	23	316
Candidates for the degree of Master of Laws .....	110	4	114
Candidates for the degree of Master of Comparative Law .....	10	2	12
Candidates for the degree of Master of Comparative Law (American Practice) .....	9	0	9
Candidates for the degree of Doctor of Juridical Science .....	9	2	11
Unclassified .....	75	0	75
	<u>1,462</u>	<u>94</u>	<u>1,556</u>

## THE SCHOOL OF ENGINEERING

Freshmen .....	195	3	198
Sophomores .....	143	0	143

\*Students registered in the College of General Studies not included in Summary of Registration.



# Summary of Registration

575

Juniors			
Seniors			
	150	2	152
	166	1	167
	<u>654</u>	<u>6</u>	<u>660</u>

## THE SCHOOL OF PHARMACY

Juniors			
Seniors			
	21	0	21
	19	2	21
	<u>40</u>	<u>2</u>	<u>42</u>

## THE SCHOOL OF EDUCATION

Juniors			
Seniors			
Candidates for the degree of Master of Arts	10	42	52
Candidates for the degree of Doctor of Education	37	61	98
Unclassified	156	164	320
	52	15	67
	16	5	21
	<u>271</u>	<u>287</u>	<u>558</u>

## THE SCHOOL OF GOVERNMENT

Juniors			
Seniors			
Candidates for the degree of Master of Arts	168	27	195
Unclassified	229	21	250
	320	31	351
	2	2	4
	<u>719</u>	<u>81</u>	<u>800</u>

## THE DIVISION OF UNIVERSITY STUDENTS

University Students	2,389	1,506	3,895
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## THE DIVISION OF SPECIAL STUDENTS

Special Students	1,239	377	1,616
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## SUMMARY

Students Registered, Academic Year 1951-52	13,804	5,485	19,289
Students Registered, Summer Sessions 1951	5,228	1,511	6,739
Total Registration 1951-52	<u>19,032</u>	<u>6,996</u>	<u>26,028</u>
Duplicate Registrations	9,367	3,041	12,408
Total Number Students Registered 1951-52	<u>9,665</u>	<u>3,955</u>	<u>13,620</u>

## TEACHING STAFF 1951-52

Professors Emeritus	17
Professors	86
Adjunct Professors	16
Professorial Lecturers	47
Clinical Professors	23
Adjunct Clinical Professors	10
Associate Professors	48

Associate Clinical Professors .....	6
Associates in the School of Medicine .....	69
Assistant Professors .....	52
Assistant Clinical Professors .....	35
Lecturers .....	91
Instructors .....	20
Clinical Instructors .....	149
Research Associates .....	4
Associates .....	58
Fellows .....	36
Technical Assistants .....	17
Total .....	792

## DEGREES CONFERRED

Associate in Arts .....	162
Bachelor of Arts .....	314
Bachelor of Arts in Education .....	34
Bachelor of Arts in Government .....	172
Bachelor of Arts and Master of Arts in Education .....	2
Bachelor of Civil Engineering .....	10
Bachelor of Electrical Engineering .....	4
Bachelor of Mechanical Engineering .....	33
Bachelor of Science .....	60
Bachelor of Science in Engineering .....	10
Bachelor of Science in Home Economics .....	20
Bachelor of Science in Pharmacy .....	20
Bachelor of Science in Physical Education .....	20
Bachelor of Laws .....	1
Doctor of Medicine .....	2
Doctor of Education .....	2
Doctor of Juridical Science .....	2
Doctor of Philosophy .....	1
Juris Doctor .....	2
Master of Arts .....	8
Master of Arts in Education .....	2
Master of Arts in Government .....	2
Master of Arts in Public Administration .....	31
Master of Comparative Law .....	94
Master of Comparative Law (American Practice) .....	2
Master of Laws .....	1
Master of Business Administration .....	1,000
Master of Science .....	

GEOGRAPHICAL DISTRIBUTION OF STUDENTS  
UNITED STATES, TERRITORIES, AND POSSESSIONS

Alabama .....	69	Delaware .....	14
Arizona .....	16	District of Columbia .....	4,000
Arkansas .....	45	Florida .....	11
California .....	184	Georgia .....	11
Colorado .....	44	Idaho .....	20
Connecticut .....	110	Illinois .....	

# Summary of Registration

577

Indiana	88	Oklahoma	66
Iowa	89	Oregon	23
Kansas	56	Pennsylvania	742
Kentucky	74	Rhode Island	39
Louisiana	36	South Carolina	42
Maine	42	South Dakota	24
Maryland	1,844	Tennessee	81
Massachusetts	258	Texas	136
Michigan	109	Utah	38
Minnesota	75	Vermont	25
Mississippi	45	Virginia	2,411
Missouri	101	Washington	64
Montana	24	West Virginia	179
Nebraska	45	Wisconsin	77
Nevada	16	Wyoming	13
New Hampshire	48	Alaska	5
New Jersey	253	Canal Zone	2
New Mexico	20	Guam	1
New York	767	Hawaii	31
North Carolina	141	Okinawa	1
North Dakota	24	Puerto Rico	21
Ohio	222		

## FOREIGN COUNTRIES

Algeria	1	Honduras	3
Argentina	1	India	8
Australia	1	Indonesia	4
Bahamas	1	Iran	2
Brazil	6	Iraq	2
British Guiana	1	Italy	5
British West Indies	1	Japan	7
Burma	2	Korea	2
Canada	1	Malaya	1
Ceylon	2	Mexico	4
China	8	Morocco	2
Cuba	2	Netherlands	2
Colombia	1	Nicaragua	2
Costa Rica	9	Norway	2
Cuba	4	Pakistan	3
Czechoslovakia	5	Panama	2
Denmark	5	Paraguay	2
Dominican Republic	1	Peru	1
Ecuador	2	Philippines	18
Egypt	1	Spain	1
El Salvador	1	Sweden	4
Finland	4	Switzerland	3
France	2	Syria	3
Germany	7	Thailand	1
Greece	1	Turkey	6
Guatemala	10	Yugoslavia	1
Haiti	2		
	1		



## ALUMNI AND ALLIED ASSOCIATIONS

### THE GENERAL ALUMNI ASSOCIATION

The objects of this Association are to unite the graduates in closer sympathy and to promote the general welfare of the University. The following persons are eligible for *active* membership: graduates of any college, school, or division of the University; holders of honorary degrees from the University; and members of the Board of Trustees and of the Faculty of the University. Any person who has matriculated at the University in good standing, is eligible for *associate* membership.

The Alumni Office is situated at 2018 I Street, Washington, D. C. Alumni are urged to keep the office informed of changes of address or occupation and to supply information with regard to their fellow alumni.

1952-53

*President*.—Elmer Louis Kayser, A.B. and T.D. 1917, A.M. 1918, LL.D. 1948 (Ph.D. 1932, Columbia University); 2921 34th Street, Washington, D. C.

#### *Vice Presidents:*

*Columbian College*.—James Robert Kirkland, A.B. 1927, LL.B. 1928, LL.M. 1929 (B.C.S. 1931, Benjamin Franklin University); 1519 Underwood Street, Washington, D. C.

*Graduate Council*.—Orville Edward May, A.B. 1924, M.S. 1929, Ph.D. 1929; 3449 Peachtree Road N.E., Atlanta, Ga.

*School of Medicine*.—John Hugh Lyons, M.D. 1918, B.S. 1919 (M.S. 1923, University of Minnesota); 1150 Connecticut Ave., Washington, D. C.

*Law School*.—Stanley James Tracy, LL.B. 1925; Federal Bureau of Investigation, Washington, D. C.

*School of Engineering*.—Merwyn N. McKnight, Sr., B.S. in M.E. 1938, B.E.E. 1941; 1704 Calvert Street, Arlington, Va.

*School of Pharmacy*.—David Lander Maxwell, Phar.D. 1913; 4800 Ridge Road, Bethesda, Md.

*School of Education*.—Elsie Green, A.B. 1914, A.M. 1928; 3151 Tennyson Street, Washington, D. C.

*School of Government*.—Otto Schoenfelder, A.B. in Govt. 1933, LL.B. 1942; Tax Court of the United States, Washington, D. C.

*Treasurer*.—Anna Marie Bischoff, A.B. 1928; 2025 I Street, Washington, D. C.

*Executive Secretary.*—Sara Ford Dallmeyer Pine, ex. 1949; Flint, Mich.  
*Executive Committee:*

- May Paul Bradshaw, A.B. and T.D. 1909, A.M. 1913; 1631 S Street, Washington, D. C.  
 Vernon Lee Brown, A.B. 1927 (M.B.A. 1941, New York University); 230 Park Place, Brooklyn, N. Y.  
 Frank Elwood Davis, LL.B. 1943; 714 Transportation Building, Washington, D. C.  
 Jessie Fant Evans (Mrs. Joshua Evans, Jr.), A.B. and T.D. 1913, Ed.D. 1932; 3405 Lowell Street, Washington, D. C.  
 Fred Royce Franzoni, Jr., B.S. in Phar. 1936; 1615 Franklin Street, Washington, D. C.  
 George Alexander Kilpatrick, B.C.E. 1945; 2100 N. Quantico Street, Arlington, Va.  
 Thaddeus Alphonse Lindner, A.B. 1951; 2130 N Street, Washington, D. C.  
 Horace Luther Lohnes, LL.B. 1924, LL.M. 1925 (M.P.S. 1927, American University); Twin Oaks, Route 4, Vienna, Va.  
 Joseph Hiram Roe, Ph.D. 1923 (A.B. 1916, Roanoke College; A.M. 1917, Princeton University; Ph.D. 1934, Yale University); 1352 Jefferson Street, Washington, D. C.  
 Eugene Shorb Thomas, A.B. 1929 (M.B.A. 1934, Harvard University); 2 Hawthorne Road, Bronxville, N. Y.  
 Alexander Wetmore, M.S. 1916, Ph.D. 1920, Sc.D. 1932 (A.B. 1912, University of Kansas); 204 Maple Avenue, Takoma Park, Md.

# THE GEORGE WASHINGTON UNIVERSITY MEDICAL SOCIETY

The George Washington University Medical Society, the organization of graduates of the School of Medicine, was established in 1905 and since 1926 has been affiliated with the General Alumni Association. The objects of the Society, as stated in the constitution, are "The promotion of the science and art of medicine and the welfare of the School of Medicine."

1952-53

- President.*—Herman Solomon Hoffman, A.B. 1921, M.D. 1924; 3118 16th Street, Washington, D. C.  
*President Elect.*—Luther Henry Snyder, M.D. 1935 (A.B. 1931, Gettysburg College); 915 19th Street, Washington, D. C.  
*First Vice President.*—Leland Ernest Stevenson, M.D. 1934; 1219 16th Street, Washington, D. C.  
*Second Vice President.*—Elma Behee Carr, A.B. 1920, A.M. 1921, M.D. 1928; Bellevue Hotel, Washington, D. C.

*Secretary-Treasurer.*—Richard Henry Fischer, B.S. 1939, M.D. 1943; 915 19th Street, Washington, D. C.

*Council:*

James Irving Boyd, A.B. 1923, M.D. 1926, M.S. 1927; 8200 Marlboro Pike, Forrestville, Md.

Herbert Stelwyn Gates, M.D. 1923; 815 East Capitol Street, Washington, D. C.

John Hugh Lyons, M.D. 1918, B.S. 1919 (M.S. 1923, University of Minnesota); 1150 Connecticut Avenue, Washington, D. C.

Henry John Russell McNitt, B.S. in Med., M.D. 1925; 1835 I Street, Washington, D. C.

Clyde Pinckney Reeves, M.D. 1933; 1028 Connecticut Avenue, Washington, D. C.

#### THE GEORGE WASHINGTON LAW ASSOCIATION

The George Washington Law Association, the organization of graduates of the Law School, was founded in 1912 and has been affiliated with the General Alumni Association since 1926. Its purposes as stated in the constitution are to promote high standards of legal education to keep the alumni of the Law School in closer touch with one another and especially with members of their own classes, to gather and publish at intervals information as to the whereabouts and activities of these alumni, and to further the interests of the Law School.

1952-53

*President.*—Horace Luther Lohnes, LL.B. 1924, LL.M. 1925 (M.P.S. 1927, American University); Twin Oaks, Route 4, Vienna, Va.

*First Vice President.*—Vernon Romney, LL.B. 1922; 212 Kearns Building, Salt Lake City, Utah

*Second Vice President.*—Sarah Tilghman Hughes (Mrs. George Ernest Hughes), LL.B. 1922 (A.B. 1917, Goucher College); Court House, Dallas, Tex.

*Third Vice President.*—Weston Vernon, LL.B. 1943; 15 Broad Street, New York, N. Y.

*Secretary-Treasurer.*—Samuel Craighead Caldwell, LL.B. 1943; Warrenton Building, Washington, D. C.

*Executive Committee:*

Charles Oscar Berry, LL.B. 1932, A.B. 1933; 1100 H Street, Washington, D. C.

W. Cameron Burton, LL.B. 1921; 2812 34th Street, Washington, D. C.

William E. Doyles, LL.B. 1937; 669 Adams Street, Denver, Colo.



- Douglas Granville Hudson, L.B. 1912; Marble Building, Fort Scott, Kans.
- Joseph D. Hughes, LL.B. 1934 (B.S. 1930, Alabama Polytechnic Institute, LL.M. 1935, Georgetown University); 525 William Penn Place, Pittsburgh, Pa.
- Howard Cecil Kilpatrick, LL.B. 1922; 4120 42d Street, Washington, D. C.
- John Elmer McClure, LL.B. 1924, LL.M. 1925; 626 Washington Building, Washington, D. C.
- Philbrick McCoy, LL.B. 1922, LL.M. 1923; Superior Court for Los Angeles County, Los Angeles, Calif.
- Charles Sylvanus Rhyne, LL.B. 1937; 730 Jackson Place, Washington, D. C.

### THE LIBRARY SCIENCE ALUMNI ASSOCIATION

The Library Science Alumni Association was organized in 1932 by graduates of the Division of Library Science and became an affiliate of the General Alumni Association in 1935. It was established to foster a closer relationship between the Faculty and graduates and to further the interests of the Division of Library Science and of the University as a whole.

1952-53

- President.*—John S. Moats, A.B. in L.S. 1932 (B.S. in Chem. Eng. 1928, Washington University); 7109 Harwick Road, Washington, D. C.
- Vice President.*—Effie Thompson, ex. 1931; 4104 Arkansas Avenue, Washington, D. C.
- Secretary.*—Marguerite Quattlebaum (Mrs. Charles Albert), A.B. in L.S. 1939; 1120 South 28th Street, Arlington, Va.
- Treasurer.*—Mary Philomena Smith, A.B. in L.S. 1933, A.M. in L.S. 1939; 2039 New Hampshire Avenue, Washington, D. C.

### THE ENGINEER ALUMNI ASSOCIATION OF THE GEORGE WASHINGTON UNIVERSITY

The Engineer Alumni Association was organized in 1936 and has been affiliated with the General Alumni Association since that time. Its objects are to unite the graduates and Faculty of the School of Engineering in closer fellowship, to promote the general welfare of the School of Engineering and of the University at large, to foster activities of the engineering organizations recognized by the University, and to advance the profession of engineering in general.

1952-53

*President.*—George Alexander Kilpatrick, B.C.E. 1945; 2100 N. Quantico Street, Arlington, Va.

*Vice President.*—Reuben Francis Leatherwood, B.C.E. 1933; 105 Gratton Street, Chevy Chase, Md.

*Executive Committee:*

Benjamin Carpenter Cruickshanks, Sr., B.S. in M.E. 1920; 5733 4th Street, Washington, D. C.

Merwyn N. McKnight, B.S. in M.E. 1938, B.E.E. 1941; 1704 North Calvert Street, Arlington, Va.

George Chester Thom, B.S. in E.E. 1932, B.S. in M.E. 1934; 6320 32d Street, Washington, D. C.

THE GEORGE WASHINGTON UNIVERSITY NURSES ASSOCIATION

The George Washington University Nurses Association was organized in 1914. In 1936 this organization was made an integral part of the General Alumni Association, and graduates of the School of Nursing were accorded associate membership. The objects of the Association are to hold in unison the graduates of the George Washington University Hospital School for Nurses, to care for its sick members, and to promote the advance of nursing in the interest of the George Washington University Hospital.

1952-53

*President.*—Mrs. Betty Russell, N. Dip. 1929; 1509 20th Street, Washington, D. C.

*Vice President.*—Laura Sandres, N. Dip. 1924; 1731 New Hampshire Avenue, Washington, D. C.

*Secretary.*—Flora Schroebel, N. Dip. 1929; 4730 16th Road N., Arlington, Va.

*Treasurer.*—Ruth Marmaduke, N. Dip. 1928; 2000 16th Street, Washington, D. C.

REGIONAL ALUMNI CLUBS

Regional alumni clubs sponsored by the General Alumni Association are maintained in the following places: Los Angeles, Calif.; Denver, Colo.; Atlanta, Ga.; Chicago, Ill.; Baltimore, Md.; Boston, Mass.; Detroit, Mich.; Kansas City, Mo.; St. Louis, Mo.; Brooklyn, N. Y.; New York City, N. Y.; Cleveland, Ohio; Tulsa, Okla.; Portland, Ore.; Pittsburgh, Pa.; Norfolk, Va.; Seattle, Wash.; Milwaukee, Wis.; Arkansas; Northern California; New Jersey; Ohio River Valley; Utah; Hawaii; Philippine Islands; Puerto Rico.

Information about the officers and activities of these clubs may be obtained from the Alumni Office of the University.

### THE GRADUATE ENDOWMENT FUND

The Graduate Endowment Fund was founded by the class of 1926 with the object of providing endowment to be used for the development of the University. Membership is limited to seniors and graduates who sign a pledge of \$100, payable annually in ten equal installments.

The pledge notes and funds are held in trust. When the principal reaches the sum of \$100,000, the Board of Administrators of the Fund may pay to the University such sums as it may vote for erection of buildings, acquisition of sites, maintenance, and purchase of equipment. At no time may money be drawn so as to leave a balance of less than \$50,000 on deposit.

On request, the Alumni Office of the University will furnish pledge blanks to alumni.

### THE COLUMBIAN WOMEN

The objects of this organization are (1) the promotion of acquaintanceship among its members; (2) the advancement of women by the founding of scholarships in the various departments of the University; and (3) the promotion of the interests of the University.

### MEMBERSHIP

The following persons shall be eligible for active membership: (a) any woman who for one year has been a regularly registered student in The George Washington University, provided that she shall have received credit for thirty hours of work; (b) any woman member of the Faculties or Board of Trustees, any woman on the administrative staff; the wife of any member of the Faculties, Board of Trustees, or of the administrative staff; (c) any woman recipient of an honorary degree from the University.

1952-53

*President.*—Margaret S. Gusack (Mrs. Harry Gusack), A.B. and B.Dip. in Ed. 1929, A.M. 1941; 2515 13th Street, Washington, D. C.  
*First Vice President.*—Agnes C. Peitz, A.B. in Ed. 1940; Hine Junior High School, Washington, D. C.  
*Second Vice President.*—Elsie Green, A.B. 1914, A.M. 1928; 3151 Tennyson Street, Washington, D. C.  
*Treasurer and Corresponding Secretary.*—Anna May Stanbaugh; 206 Great Falls Street, Falls Church, Va.  
*Recording Secretary.*—Carolyn Vinci, A.B. 1948; 2121 N. Troy Street, Arlington, Va.  
*Assistant Corresponding Secretary.*—Edith Elizabeth Harper, A.B. in Ed. 1950; 65 M Street, Washington, D. C.



*Assistant Treasurer.*—Anna Marie Bischoff, A.B. 1928; 2025 I Street, Washington, D. C.

*Historian.*—Margaret Metzgeroth, A.B. 1921; 119 12th Street, S.E., Washington, D. C.

THE WOMEN'S BOARD OF THE GEORGE WASHINGTON  
UNIVERSITY HOSPITAL

The object of this organization is to aid in every way the interests and advancement of the George Washington University Hospital. Meetings are held on the first Wednesday of each month, October to June, inclusive. Inquiries regarding membership should be addressed to the Corresponding Secretary, The George Washington University, Washington 6, D. C.

1952-53

*President.*—Mrs. Cloyd Heck Marvin

*Vice President.*—Mrs. Wilbur Carr

*Vice President.*—Mrs. Gilbert Grosvenor

*Vice President.*—Mrs. Walter A. Bloedorn

*Recording Secretary.*—Mrs. Everett Johnson

*Corresponding Secretary.*—Mrs. Wolfram Legner

*Assistant Corresponding Secretary.*—Mrs. William Y. Handy

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*Assistant Treasurer.*—Mrs. Barton W. Richwine

THE SCHOOL OF MEDICINE

1952-53





THE  
GEORGE  
WASHINGTON  
UNIVERSITY

BULLETIN

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VOL. L

No. 6

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THE SCHOOL OF MEDICINE

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WASHINGTON, D. C.

PUBLISHED IN SEPTEMBER  
MCMLI

BY THE UNIVERSITY



## CONTENTS

Calendar of the School of Medicine.....	vi
The Board of Trustees.....	1
Officers of Administration.....	2
Faculty and Staff of Instruction in Medicine.....	3
Assistants in Research and Instruction.....	25
Technical Assistants.....	27
Administrative Assistants.....	28
The School of Medicine.....	29
Courses of Instruction.....	44
Anatomy.....	45
Anesthesiology.....	46
Bacteriology, Hygiene, and Preventive Medicine.....	47
Biochemistry.....	50
Dermatology and Syphilology.....	52
Medicine.....	53
Military Science and Tactics.....	58
Neurology and Neurological Surgery.....	59
Obstetrics and Gynecology.....	60
Ophthalmology.....	63
Otolaryngology.....	64
Pathology.....	65
Pediatrics.....	66
Pharmacology.....	68
Physical Medicine and Rehabilitation.....	70
Physiology.....	71
Psychiatry.....	73
Radiology.....	75
Surgery.....	76
Urology.....	79
Degrees Conferred, May 30, 1951.....	80
Students Registered, 1951-52.....	82
Summaries of Registration, 1951-52.....	88
Index.....	90



# CALENDAR OF THE SCHOOL OF MEDICINE

1952-53

Date	Day	Occasion
1952:		
Sept. 9 .....	Tuesday .....	Reexaminations
Sept. 11 and 12..	Thursday and Friday...	Registration period for the academic year 1952-53
Sept. 15 .....	Monday .....	Academic year begins
Nov. 11 .....	Tuesday .....	Armistice Day. Holiday
Nov. 27-29 .....	Thursday through Saturday .....	Thanksgiving recess
Dec. 22-Jan. 3 ...	Monday through Saturday .....	Christmas recess
1953:		
Jan. 16-24 .....	Friday through Saturday.	Fall term examination period
Jan. 26 .....	Monday .....	Classes resume for the spring term
Feb. 23 .....	Monday .....	Winter Convocation. Holiday
April 3 and 4 ....	Friday and Saturday...	Easter recess
April 13 .....	Monday .....	Last day for applications for degrees to be conferred in May
May 14-22 .....	Thursday through Friday.	Spring term examination period
May 24 .....	Sunday .....	Baccalaureate Sermon
May 27 .....	Wednesday .....	Commencement

## THE BOARD OF TRUSTEES

The Board of Trustees of the University is composed of the President of the University ex officio and the following persons by election:

Robert Vedder Fleming, LL.D., *Chairman*  
Henry Parsons Erwin, A.B., *Secretary*  
Newell Windom Ellison, A.B., LL.B., *Assistant Secretary*

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\*Charles Stanley White, M.D., Sc.D.  
Lloyd Bennett Wilson  
\*Frank Lloyd Yates, A.B., LL.B.

\* Nominated by the alumni.

## OFFICERS OF ADMINISTRATION

### THE UNIVERSITY

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Harold Griffith Sutton, M.S., *Director of Admissions*  
Fred Everett Nessell, A.B., *Registrar; Secretary of the Faculties*  
John Russell Mason, B.S. in L.S., A.M., *Librarian; Curator of Art*  
Myrna Pauline Sedgwick, A.B., *Administrative Secretary*  
Henry William Herzog, B.S., *Comptroller*  
Donald David Blanchard, B.C.E., *Business Manager*  
Claud Max Farrington, A.M., *Director of Activities for Men*  
Virginia Randolph Kirkbride, A.M., *Director of Activities for Women*  
Alan Thomas Deibert, A.M., *Adviser to Students from Foreign Countries*  
Daniel LeRay Borden, A.M., M.D., *Director of Health Administration*  
John Rust Busick, A.B., *Director of Public Relations*  
Don Carlos Faith, A.M., *Director of Veterans Education*  
Benjamin Douglass Van Evera, Ph.D., *Coordinator of Scientific Activities*

### THE SCHOOL OF MEDICINE AND THE UNIVERSITY HOSPITAL

Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Dean of the School of Medicine; Medical Director of the University Hospital*  
Thomas Martin Peery, A.B., M.D., *Director of Postgraduate Instruction; Director of Laboratories, the University Hospital*  
Victor Frederick Ludewig, A.B., B.S., *Superintendent of the University Hospital*



## FACULTY AND STAFF OF INSTRUCTION IN MEDICINE

### EMERITUS FACULTY

- GEORGE BAIN JENKINS M.D.  
*Professor Emeritus of Anatomy*
- WILLIAM JOHNSTON MALLORY, A.M., M.D.  
*Professor Emeritus of Medicine*
- JAMES FARNANDIS MITCHELL, A.B., M.D.  
*Professor Emeritus of Clinical Surgery*
- GEORGE BYRON ROTH, A.B., M.D.  
*Professor Emeritus of Pharmacology*

### ACTIVE FACULTY AND STAFF OF INSTRUCTION

- THEODORE JUDSON ABERNETHY, B.S., M.D.  
*Assistant Clinical Professor of Medicine. Associate in Medicine, University Hospital*
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- LOUIS KATZ ALPERT, B.S., M.D.  
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- HARVEY AMMERMAN, M.D.  
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- \* On national service leave.*

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*Associate in Neurology. Associate in Neurology, University and Gallinger hospitals*

\* On national service leave

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*Professor of Pathology. Consultant in Pathology, University Hospital; Chief of George Washington Service in Pathology, Gallinger Hospital*
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*Associate in Psychiatry. Associate in Psychiatry, University Hospital*
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*Professor of Ophthalmology. Chief of Service in Ophthalmology, University and Gallinger hospitals*
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*Clinical Instructor in Ophthalmology. Associate in Ophthalmology, University and Gallinger hospitals*

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**GENERAL INFORMATION**

**INTRODUCTORY**

The School of Medicine of The George Washington University was opened in March 1825; of the medical schools now in existence in the United States, it is the eleventh in chronological order of founding. The University Hospital and Dispensary were established in 1898 and made a part of the organization of the School.

The School is a member of the Association of American Medical Colleges and is one of the medical colleges which have been continuously approved by the American Medical Association. The degrees of the School of Medicine are recognized by all state examining boards.

### PLAN OF INSTRUCTION

The work of the School is organized under the following departments: Anatomy; Anesthesiology; Bacteriology, Hygiene, and Preventive Medicine; Biochemistry; Dermatology and Syphilology; Medicine; Military Science and Tactics; Neurology and Neurological Surgery; Obstetrics and Gynecology; Ophthalmology; Otolaryngology; Pathology; Pediatrics; Pharmacology; Physical Medicine and Rehabilitation; Physiology; Psychiatry; Radiology; Surgery; and Urology.

The salient features in the method of instruction are thorough laboratory training, demonstrations, and clinical teaching, with recitations and lectures to clarify the many problems presented. Courses of clinical instruction are included in the announcements of the clinical departments. The clinical material in the various hospitals and outpatient departments is utilized to the fullest extent for both clinical instruction and laboratory work.

Each of the first three years of the medical curriculum is divided into two terms of sixteen weeks. First-year students begin their study with a one-week orientation program. The senior year includes, in addition to the two sixteen-week terms, an eight-week summer term. One half of the senior class begins the summer term immediately upon completion of the junior year; the other half begins eight weeks later. Within certain limitations, students may elect the period of attendance and the service of assignment. There are no formal classes or examinations during this period.

### EQUIPMENT AND FACILITIES

*The George Washington University Hospital.*—The hospital, with a capacity of 400 beds, was opened in 1948. This splendid edifice, which is one of the outstanding hospitals in the United States, is completely furnished with the latest and most scientific apparatus and equipment. Its purpose is to supplement existing hospital resources in the District of Columbia for the care of the sick and the injured; the education of physicians, nurses, and technicians; and the advancement of medical knowledge.

The hospital is staffed and controlled by the Faculty of the George Washington University School of Medicine and it provides excellent clinical material for the instruction of medical students. Virtually every specialty in the fields of medicine and surgery has assigned space and equipment in both the outpatient department and the bed-patient section of this modern institution.

*Medical School Building.*—The building housing the School of Medicine is a five-story structure with lecture rooms, classrooms, students



rooms, and the following laboratories: anatomy, histology and embryology, biochemistry, physiology, pathology, and clinical microscopy.

**Laboratories.**—A four-story laboratory building is adjacent to the main medical building. The major laboratories are for bacteriology, hygiene and preventive medicine, and pharmacology. They are fully equipped to enable students to pursue adequately the laboratory courses and to acquire the technical skill necessary in modern clinical and investigative work.

**Research Building.**—The Research Building houses the George Washington University Cancer Clinic; special laboratories of the National Cancer Institute; and special laboratories concerned with the biochemical, pharmacological, and cytological aspects of cancer research; pharmacological laboratories for the synthesis and study of radiocarbon drugs; and other research laboratories of the Biochemistry, Physiology, and Surgery departments.

**Medical Library.**—The Medical Library contains a selected reference collection of more than 10,000 volumes, currently obtains important new medical works, and regularly receives the principal medical journals. Inter-library loan service is maintained by close cooperation with other medical and scientific libraries throughout Washington and vicinity.

The Medical Library is open from 9:00 A.M. to 9:00 P.M. each class day, Monday through Friday, and from 9:00 A.M. to 1:00 P.M. Saturday.

The Medical Library maintains a branch in Room 6037-A of the University Hospital for reference, research, and inter-library loan service. It is open from 2:00 to 6:00 P.M. Monday through Friday.

#### GOVERNMENT LIBRARIES AND MUSEUMS

The Library of the Surgeon General's Office of the United States Army is the most complete general medical library in the world. In addition to its great collection of medical works, all leading medical periodicals of the world are available. This Library, as well as the Library of Congress, the Public Library, and the many excellent libraries of the various government departments, is available to students and teachers through a service maintained by the Medical School Library.

The Army Institute of Pathology affords opportunity for studying the conditions met in military and general medicine and surgery. Its collection of anatomical and pathological specimens is unequalled in this country. The Museum of Hygiene, the National Museum, the Smithsonian Institution, the Botanic Gardens, and the Department of Agriculture all afford opportunities for study in Medicine and its allied sciences.

#### CLINICS

The City of Washington, with about a million inhabitants, provides ample clinical material. The University Hospital and Outpatient De-

partment furnish clinical facilities and a large proportion of the materials studied in the courses in pathology and clinical pathology.

*The University Hospital.*—All clinics are under the supervision of the Dean, who is also Medical Director of the Hospital. This insures the highest possible utilization of available clinical material for teaching purposes and the proper supervision of clinicians and students; it brings the individual student into direct contact with patients and requires him to do, under authoritative supervision, the clinical and laboratory work necessary for diagnosis and treatment; and it permits proper interpretation of the conditions occurring during the progress of cases and promotes the keeping of adequate records. Clinical and clinico-pathological conferences are held in which the history of cases, the physical findings, laboratory records, and the post-mortem pathology when available, are presented and correlated.

*The Outpatient Department.*—The Outpatient Department has clinical facilities for each Service in the Hospital. Fourth-year students are assigned in rotation by section for clinical instruction in the Outpatient Department.

*Cancer Clinic.*—The facilities of the Cancer Detection Clinic are available to medical students. In addition the diagnosis and treatment of various forms of neoplasms are presented. The results of the treatment of neoplasms are evaluated by follow-up studies.

The Helen L. and Mary E. Warwick Memorial, for cancer and allied diseases, was affiliated with The George Washington University in July 1948. The purposes of this clinic are (1) to provide care for cancer patients, through group consultations within a cancer organization, and (2) to provide training for physicians in the field of oncology.

*Gallinger Municipal Hospital.*—Clinical instruction is available in all branches of medicine. A great wealth of clinical material is afforded in this hospital and by ordinance of the municipal authorities of the District of Columbia, members of the Faculty of this School of Medicine, who are nominated by this University, are assigned approximately one-third of the patients for treatment and clinical study. Third-year students serve their clinical clerkships at this institution.

*Childrens Hospital.*—Clinical instruction in pediatrics, dermatology, and orthopedic surgery.

*Emergency Hospital and Central Dispensary.*—Clinical instruction in medicine, surgery, and the specialties.

*St. Elizabeths Hospital.*—Clinical instruction in mental and nervous diseases, medicine, post-mortem work, and gross pathology. This hospital with 6,800 beds, is maintained by the United States Government. The psychiatric clinic is one of the largest in the world.



*Mt. Alto Hospital.*—Clinical instruction in medicine and surgery is available and fourth-year students are assigned in rotation by sections for clinical clerkships.

*Walter Reed General Hospital.*—Clinical instruction is available in all branches of medicine and surgery. Fourth-year students are assigned in rotation by sections for clinical instruction.

#### ADMISSION

Ninety hours of credit applicable toward a degree in this University or another college of liberal arts and sciences are required for admission to the School of Medicine.

A credit hour represents one class hour or a minimum of two laboratory hours a week for a period of one term of approximately sixteen weeks.

#### PREMEDICAL COLLEGE REQUIREMENTS

##### Ninety Credit Hours

1. Chemistry, sixteen credit hours as follows: (a) eight credit hours in general inorganic chemistry of which at least four credit hours are laboratory work (qualitative analysis may be counted as general inorganic chemistry); (b) eight credit hours or a one-year college course of organic chemistry, including laboratory work.
2. Physics, eight credit hours, of which at least two credit hours are laboratory work. It is recommended that this course be preceded by one in trigonometry.
3. Biology, eight credit hours, of which at least four credit hours are laboratory work. This requirement may be satisfied by a course of eight credit hours in either general biology or zoology, or by four credit hours each in zoology and botany, but not by botany alone.
4. English composition and literature, six credit hours: the usual introductory college course or the equivalent. The student should develop facility in speaking and writing English.
5. Modern foreign language: a reading knowledge, preferably of French or German.
6. Electives. It is recommended that the remaining credit hours required include: (a) comparative vertebrate anatomy; (b) qualitative and quantitative chemical analysis; (c) social science and psychology.

#### ADVANCED STANDING

A student who has satisfactorily attended one or two years at any other approved medical school, and who has the necessary preliminary educational requirements, may be admitted to advanced standing.



**APPLICATION FOR ADMISSION**

1. Full directions for application will be furnished on request. The applicant should ask the registrar of each college previously attended to send an official transcript of record to the Director of Admissions, The George Washington University. Photostatic copies of credentials without the original signature of the certifying authority are not satisfactory. It is the responsibility of the applicant to see that all credentials are forwarded to the Admissions Office of the University.
2. A recent photograph, with signature, is required of each applicant.
3. As the number of qualified applicants for admission to the School each year far exceeds its capacity, the candidate for admission should secure from the colleges attended completely compiled premedical credentials and send them for evaluation well in advance of the term for which he is applying.
4. Applicants for admission are urged to take the Medical College Aptitude Test of the Association of American Medical Colleges.
5. A fee of \$5 to defray the costs of completing the records for final consideration for admission must accompany each application.

**REGISTRATION**

For the academic year 1952-53, registration will be conducted at the Medical School, 1335 H Street NW., from 9:00 A.M. to 4:00 P.M. September 11 and 12. Registration is for a period of one academic year.

**FEES AND FINANCIAL REGULATIONS**

The following fees have been adopted:

Tuition fee, for each academic year.....  
 Fee for special examinations, for each subject.....  
 Graduation fee .....

**PAYMENT OF FEES**

Fees for each term are \$375, payable in advance.  
 All fees are payable at the Office of the Cashier of the University, 725 Twenty-first Street NW. Fees due must be paid at the time of registration; no student is permitted to complete registration or to attend classes until fees are paid.

Registration in the School of Medicine is for a period of one academic year. After the student has entered the courses of instruction he is obligated for the full tuition for the academic year. No part of the tuition will be refunded upon withdrawal or dismissal for any cause. Acceptance by the School of a student's fees does not in any way obligate the School to accept the student for any subsequent year, and the student

is reserved to drop any student from the School whenever, in the interest of the student or the School, the Faculty deems it advisable to do so.

Because the number of applicants far exceeds the limit of each class, places can be reserved only for those qualified applicants who remit a deposit of \$100 which will be credited toward the tuition of the first term. Under no circumstances will this deposit be refunded.

Credit for work will not be given until, at the completion of a laboratory course, the student has replaced or paid for all articles of equipment or other University property which he has lost, broken, or destroyed. All breakage or loss not directly traceable to an individual student is assessed pro rata.

#### COST OF TEXTBOOKS AND STUDENT EQUIPMENT

The minimum cost of necessary textbooks and student equipment (microscope, drawing materials, glass slides, clinical thermometer, stethoscope, hemocytometer, etc.) is approximately as follows: first year, \$400; second year, \$250; third year, \$90; fourth year, \$80; total, \$820.

A fee of \$1 a term is charged for the use (optional) of a locker.

#### LOAN FUNDS

For information concerning loan funds consult the Chairman of the Committee on Student Loans and Scholarships, The George Washington University.

#### REGULATIONS

*Students in the School of Medicine are subject to, and are expected to familiarize themselves with, the general University regulations stated in the University Catalogue.*

#### ABSENCE

Absence consists in being away from a class or clinic during a scheduled period, entering after the class or clinic has begun, or leaving before either is dismissed.

Excuse for absence due to sickness must be accompanied by a certificate signed by the attending physician and must be filed in the Office of the Dean.

For every unexcused absence a department will deduct one-half of one percent from the student's final grade in the subject involved.

#### GRADES

The following grading system is used: *A* (90-100); *B* (80-89); *C* (75-79); *D* (65-74) condition; *E* (below 64) failure; *Inc.*, incomplete. The passing grade in each subject is *C*.

A student who is conditioned in any subject will not be advanced until such condition is removed and then only by authority of the Committee on Scholarship. All conditions must be removed at the next make-up examination period provided for this purpose.

#### EXAMINATIONS

Examinations, which may be written, oral, or practical, will be held at the end of each term.

A student who fails to appear at a regularly scheduled final examination will not be examined until the next regular examination, except by special permission of the Committee on Scholarship. For make-up examinations to remove conditions, a fee of \$5 will be charged for each subject.

All students in the School of Medicine are required to take Part I and Part II of the National Board Examinations, except that students from those states and foreign countries which do not recognize the National Board may be exempted from Part II by action of the Committee on Scholarship.

#### RIGHT TO DISMISS STUDENTS

The right is reserved by the University to dismiss or exclude any student from the University, or from any class or classes, whenever, in the interest of the student or the University, the University Administration deems it advisable to do so.

#### RIGHT TO CHANGE RULES

The University and its various colleges, schools, and divisions, reserve the right to modify or change requirements, rules, and fees. Such regulations shall go into force whenever the proper authorities may determine.

#### HEALTH ADMINISTRATION

The University maintains a health service that is primarily diagnostic in its intent. It also provides first aid in the event of an emergency.

Medical privileges include: (1) the physical examination of all entering students; (2) three visits by the University physician or surgeon to the office or residence (District of Columbia) in any one illness, excluding a specialist, surgical operation, laboratory, or X-ray examination; (3) hospitalization, including board and nursing in the University hospital for not more than one week during any twelve-month period. The necessity to be determined by the Director of Health Administration. The duration of hospitalization period (maximum, one week) is to be determined by the Director of Health Administration.



This medical benefit does not apply to illness or disability incurred previous to the University term or prior to payment of tuition fees.

The student is allowed, if he so desires, to engage physicians and nurses of his own choice, but when he does so he will be responsible for the fees charged.

Rules: (1) The Director of Health Administration is empowered to limit or deny the medical benefits where, in his discretion, a student has, by his misconduct or breach of the rules of the University, made himself ineligible; (2) the Director of Health Administration has authority to determine the necessity and length of hospitalization; (3) a student who has severed his connection with the University is ineligible for medical benefits.

#### PHYSICAL EXAMINATIONS

All first-year students are given a comprehensive physical examination upon admission to the School of Medicine. The students are informed of the findings and advised regarding such measures as will tend to maintain a high standard of health.

In addition medical students benefit from the complete Tuberculosis Case Finding Program which the School has maintained since 1938-39. Under this program all students receive tuberculin tests, X-ray examinations, and such special attention from chest specialists as is necessary to reduce to a minimum the dangers from tuberculosis to which medical students are believed to be subject. Students are immunized against those diseases for which proven prophylactics exist.

#### AWARDS

*John Ordronaux Prize.*—This prize of \$150 is awarded annually to the member of the graduating class of the School of Medicine who has completed the four-year medical course with the highest scholastic standing. In 1950-51 this prize was awarded to Eugene Debs Robin.

*Anna Bartsch Scholarship.*—This scholarship, in the amount of \$500, established in 1946 by Dr. Anna Bartsch-Dunne as a memorial to her mother, Anna Bartsch, is awarded annually to a woman in the School of Medicine "of outstanding scholarship, character, and promise, who intends to make the practice of medicine her life profession." For the year 1951-52 this scholarship was awarded to Gloria Swanson Godbey.

*Anna Bartsch Internship.*—In memory of her mother, Anna Bartsch, Dr. Anna Bartsch-Dunne established in 1946 a fund to aid in the support of an internship. This aid, in the amount of \$15 a month, is awarded annually to a woman holding an internship in the University Hospital. For the year 1951-52 this internship was awarded to Jeanne Frances Bradley.

## HONOR SOCIETIES

*William Beaumont Medical Society.*—Medical students showing unusual ability are elected by the active members of this society, which was founded to encourage and stimulate individual investigation.

*Howard Kane-A. F. A. King Obstetrical Society.*—The fifteen students in the third and fourth year classes who maintain the highest grades in their work in obstetrics are eligible for membership.

*Smith-Reed-Russell Society.*—Students of the third and fourth years who maintain a scholastic average of 88 per cent are eligible for membership.

## RESERVE OFFICERS' TRAINING CORPS, U. S. ARMY, MEDICAL UNIT

A Medical Unit of the Reserve Officers' Training Corps is established in this School by authority of the Secretary of the Army, and an officer of the Medical Corps of the Army is detailed to the University for supervision and instruction of the unit.

The instruction is divided into two two-year courses, the basic and the advanced. Each course consists of 90 hours—58 hours of prescribed medical instruction given by the Medical School and 32 hours of military medical instruction. Students who satisfactorily complete the basic course may, up to the quota allowed by the Department of the Army, enter the advanced course. Students in the advanced course receive from the Government, a stipend of approximately \$700.

Students in the advanced course are required to complete the course and to attend a summer training period of six weeks.

A student who successfully completes the course is recommended for a commission in the Medical Corps Reserve. It is the policy of the Department of the Army to give preference to graduates of this course in the selection for Army internship.

Membership in the Unit, which is voluntary, is open to any physically fit male student who is a citizen of the United States and who is, at the time of enrollment, within the following specified age limits: under 29 years for the basic course, under 31 years for the advanced course. Veterans with a minimum of six months' service receive credit for the first year of the elementary course; those with a minimum of twelve months' service receive credit for both years of the basic course.

## LIVING ACCOMMODATIONS

*Women Students.*—Women students under twenty-one years of age who are enrolled for twelve or more credit hours of academic work at the University must have their residences approved by the Director of Activities for Women before their registrations can be completed. In



the Hattie M. Strong Residence Hall, single rooms are \$35 a month; double rooms are \$28 a month a person. Meals are served at the Student Union. Applications for rooms should be made well in advance. Forms for application, together with detailed information, may be obtained from the Director of Activities for Women.

*Men Students.*—Welling Hall provides double room facilities for 102 students. Rooms rent for \$24 a month a person. Dining facilities are available to all residents. Single and double rooms are provided in Draper Hall, restricted to veterans of World War II who are enrolled for a minimum of twelve credit hours of academic work in the University. Single rooms are \$17 a month; double rooms are \$13 a month a person. The University maintains a limited number of temporary apartment units for married veteran students and their families subject to the same requirements for tenancy as above. Meals are served at the Student Union.

Application forms for reservations may be obtained from Director of Activities for Men.

Information concerning private rooming and boarding facilities near the University for women students twenty-one years of age or older and for men students may be obtained at the offices of the Director of Activities for Women and the Director of Activities for Men. The reservation of rooms in private houses must be made by students.

## THE DEGREE OF DOCTOR OF MEDICINE

Upon the satisfactory completion of the requirements of the School of Medicine, the degree of Doctor of Medicine is conferred.

### REQUIREMENTS FOR THE DEGREE

Every candidate for graduation with the degree of Doctor of Medicine must be at least twenty-one years of age, of reputable character, and free of all indebtedness to the University. He must have satisfied the admission requirements, completed satisfactorily not less than four academic years of study as a matriculated student in Medicine, completed all required courses, and passed satisfactorily all prescribed examinations.

### COMBINED ARTS AND MEDICINE CURRICULUM

In order to be recommended for the degree of Bachelor of Arts, the candidate must complete at least ninety credit hours of prescribed college work (at least thirty credit hours and one year of residence must be completed in Columbian College, the senior liberal arts college), and the first year of the medical curriculum. Upon satisfactory completion of



the fourth year of the medical curriculum the student becomes eligible for the degree of Doctor of Medicine.

#### HONORS

A candidate who has completed the four-year medical course with an average grade of *A* may be recommended for graduation "with distinction."

#### INTERN AND RESIDENT TRAINING PROGRAM

Beginning July 1, 1952, The George Washington University Hospital is offering rotating-type internships as classified by the Interassociation Committee on Internships. Twenty-three internships of one year each will be offered; thirteen in the Department of Medicine with emphasis on medicine, ten in the Department of Surgery with emphasis on surgery.

*Rotating Internships, Emphasis on Medicine.* Interns will be assigned to seven months of General Medicine, two months on the surgical service, and one month each on neuro-psychiatry, pediatrics, and obstetrics and gynecology.

*Rotating Internships, Emphasis on Surgery.* Interns will be assigned to the surgical service for nine months, to general medicine for two months, and to obstetrics and gynecology for one month.

#### POSTGRADUATE INSTRUCTION

The School of Medicine offers annually a series of short intensive postgraduate courses, varying somewhat from year to year. The series is designed for physicians in practice. The significant advances in the various specialties are presented, together with summaries of older information. A distinguished Guest Faculty supplements the Staff of the Medical School.

The Kellogg Medical Lectures, inaugurated in 1948, are a series of evening lectures and clinics, designed primarily for physicians practicing in Washington and the vicinity. They are also attended by the Faculty, postgraduate students, and members of the senior class of the School of Medicine.

During the academic year 1950-51 approximately 110 physicians were enrolled in postgraduate courses. For application blanks and further information, address the Director of Postgraduate Instruction, The George Washington University Hospital, Washington 7, D. C.

#### MEDICAL TECHNOLOGIST COURSE

The course for medical technologists consists of twelve consecutive months of didactic and practical work in all phases of clinical laboratory

technique. The course meets the full requirements of the Registry of Medical Technologists of the American Society of Clinical Pathologists. Prerequisites are 60 credit hours (two academic years) of college work including required credits in biology and chemistry.

Two classes are accepted each year, one entering in September and the other in March. Enrollment in each class is strictly limited so that personal instruction can be given.

Upon satisfactory completion of the course a certificate is awarded and the candidate is eligible for the certifying examination given by the Registry of Medical Technologists.

For application blanks and further information, address the Director of Laboratories, The George Washington University Hospital, Washington 7, D. C.

## COURSES OF INSTRUCTION

On the following pages of this BULLETIN, under the alphabetically arranged names of the departments of instruction, are listed the courses of instruction offered by the School of Medicine. The School of Medicine serves other divisions of the University by making available to non-medical students certain undergraduate and graduate courses in the following fields: Anatomy, Bacteriology, Biochemistry, Pathology, Pharmacology, Physical Medicine, and Physiology. The courses listed are subject to some slight change. The University reserves the right to withdraw any course announced.

### EXPLANATION OF COURSE NUMBERS AND SYMBOLS

The number which precedes the name of a course indicates the term of the academic year in which the course is offered. An odd number indicates that the course is offered in the fall term; an even number, that it is offered in the spring term; and a double number (e.g., 343-44), that it begins in the fall term and continues in the spring.

A number in parentheses after the name of a course, indicates credit hours which may be earned by nonmedical students.

First-year courses are numbered from 101 to 200; second-year courses, from 201 to 300; third-year courses, from 301 to 400; and fourth-year courses, from 401 to 500.

*Courses offered in the School of Medicine for nonmedical students.*—Courses numbered from 101-200 are planned for upper-division students in undergraduate curricula. They may be credited toward higher degrees only when registration for graduate credit has been approved at the beginning of the course by the dean responsible for the graduate work and by the officer of instruction, and when the completion of additional work has been certified by the officer of instruction. Courses numbered from 201 to 300 are planned for graduate students.



## ANATOMY

Warren Andrew, Ph.D., M.D., *Professor of Anatomy, Executive Officer*  
 Ross Clayton MacCardle, Ph.D., *Professorial Lecturer in Anatomy*  
 Webb Edward Haymaker, M.S., M.D., *Professorial Lecturer in Anatomy*  
 Paul Calabrisi, A.M., *Associate Professor of Anatomy*  
 Ivor Cornman, Ph.D., *Assistant Research Professor of Anatomy*  
 Edgar Pleasant Jayne, Ph.D., *Assistant Professor of Anatomy*  
 Wilfred Walter Eastman, M.D., *Clinical Instructor in Anatomy*  
 Alan Andrews Dun, A.B., M.D., *Clinical Instructor in Anatomy*  
 Lloyd Eugene Church, M.S., D.D.S., *Fellow in Anatomy*  
 Charles Edward McCreight, M.S., *Fellow in Anatomy*

### 101-2 *Gross Anatomy* Calabrisi and Staff

Regional dissection of the human body supplemented with lectures and quiz sections. Study of X-ray anatomy to emphasize the functional aspects of the position, shape, and relation of the viscera and skeletal components. Eighteen hours a week, fall term; nine hours a week, spring term.

### 103 *Human Embryology* Andrew and Staff

The origin and development of the human body. Special emphasis on the value of embryology in interpreting anatomical anomalies and variations as seen in gross dissection, surgery, obstetrics, and pathology. Three hours a week.

### 105 *Neuro-anatomy* Haymaker and Staff

The macroscopic and microscopic study of the central nervous system and the special sense organs. Emphasis on such dynamic aspects as development, pathways, lesions, etc. Six hours a week.

### 106 *Microscopic Anatomy* Andrew and Staff

Study of the detailed minute structure of cells, tissues, and organs of the human body with emphasis on the relation of structure to function. Recognition and interpretation of histological sections tested by practical examinations. Six hours a week.

### 201-2 *Seminar (1-1)* Andrew and Staff

Reports and discussions of special topics by the Staff and graduate students. For graduate liberal arts students. Regular medical students are encouraged to attend. One hour a week.

### 295-96 *Research (arr.)* Andrew and Staff

Hours, credits, and fees to be arranged.

### 299-300 *Thesis (3-3)* The Staff

## ANESTHESIOLOGY

Donald Harrison Stubbs, A.M., M.D., *Clinical Professor of Anesthesiology*  
 Charles Seymour Coakley, M.D., *Associate Professor of Anesthesiology, Executive Officer*  
 Seymour Alpert, A.B., M.D., *Assistant Professor of Anesthesiology*  
 William Eldridge Bageant, M.D., *Clinical Instructor in Anesthesiology*  
 Allen Widome, M.D., *Clinical Instructor in Anesthesiology*  
 Charles Herbert Spencer, Jr., B.S., M.D., *Fellow in Anesthesiology*  
 Salard Junhvat, B.M., *Fellow in Anesthesiology*

### 320 *Anesthesiology*

Review of basic sciences and correlation between basic sciences and clinical work. One hour a week. The Staff

### 351-52 *Anesthesia Seminar*

Third-year students attend anesthesia seminars during their surgical clinical clerkships at the University Hospital. Two hours a week. The Staff

### 433-34 *Advanced Anesthesiology*

Fourth-year students are rotated through the work of the department for a period of one week and assigned to work in operating rooms, conferences, and seminars. For the more advanced students a three-week elective is offered. The Staff

## BACTERIOLOGY, HYGIENE, AND PREVENTIVE MEDICINE

Leland Wilbur Parr, Ph.D., *Professor of Bacteriology, Executive Officer*  
 Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*  
 Ralph Gregory Beachley, M.D., Dr.P.H., *Adjunct Professor of Public Health Practice*  
 Mary Louise Robbins, Ph.D., *Assistant Professor of Bacteriology*  
 William Gray McCarten, M.S., *Instructor in Bacteriology*  
 Lewis Walke McIlhenny, M.S., M.D., *Clinical Instructor in Public Health Practice*  
 Vernon Jack Fuller, B.S., *Fellow in Bacteriology*  
 Janet Wilson Hartley, B.S., *Sanders Fellow in Bacteriology*  
 Andrew John Vargasko, B.S., *Fellow in Bacteriology*

### SEMINAR LECTURERS

Charles Armstrong, B.S., M.D., Sc.D., *Professorial Lecturer in Preventive Medicine*  
 Royd Ray Sayers, A.M., M.D., *Professorial Lecturer on Industrial Hygiene*  
 Sara Elizabeth Branham, Ph.D., M.D., Sc.D., *Professorial Lecturer in Preventive Medicine*  
 Chester Wilson Emmons, Ph.D., *Professorial Lecturer on Medical Mycology*  
 Willard Hull Wright, D.V.M., Ph.D., *Professorial Lecturer on Medical Zoology*  
 John Roderick Heller, Jr., B.S., M.D., *Professorial Lecturer on Cancer Control*  
 Carl John Lauter, M.S., *Professorial Lecturer on Municipal Sanitation*  
 Robert Carter Cook, *Professorial Lecturer on Medical Genetics*  
 Robert Hanna Felix, M.D., M.P.H., *Professorial Lecturer on Mental Hygiene*  
 Carl Robert Brewer, Ph.D., *Professorial Lecturer on Microbial Physiology*  
 Francis Byron Gordon, Ph.D., M.D., *Professorial Lecturer on Virology*

112 *General Bacteriology* (4) Robbins  
 For nonmedical students. A study of the fundamentals of bacteriology, including hygienic applications. Methods of cultivation and control of several groups of microorganisms are studied in the laboratory. Prerequisite: any biological laboratory science; Chemistry 11-12. Laboratory fee, \$9. Tues., Thurs., and Sat., 9:10 to 12:00 A.M.



- 209 *Medical Microbiology* (1-11) Parr, Griffin  
Bacteria, rickettsia, viruses, yeasts, molds, protozoa, and metazoa which relate to the health and diseases of man—cultural study of most important forms; methods of diagnosis by microscopic, cultural, immunologic, and animal reactions; theory and methods of eradication; vaccines; serums; antibiotics. Open to suitably prepared graduate students; may be elected as a whole or in part by adding the appropriate letter to the course number, with credit allocated as follows: (a) *Bacteriology*, including rickettsia and viruses (7); (b) *Parasitology*, including medical mycology (3); (c) *Immunology* (1). May be taken by a limited number of candidates for Master's degrees. Laboratory fee, \$1 a credit hour. (Minimum fee, \$3.) Time to be arranged.
- 210 *Fundamentals of Epidemiology and Public Health* (2) Parr and Staff  
Sources, modes, and implications of infection and injury. Consideration also given the problems of accidents and industrial medicine. Open to liberal arts graduate students. Prerequisite: Bacteriology 112 or 209. Mon., 2:00 to 4:00 P.M.
- 219-20 *Advanced Microbiology* (arr.) Griffin and Staff  
Special study of advanced methods and current problems in microbiology for suitably qualified students specializing in microbiology. Prerequisite: Bacteriology 112 or 209; Chemistry 151-52 or the equivalent; permission of the instructor. Laboratory fee, \$3 a credit hour. Time and credits to be arranged.
- 229 *Virus Techniques* (3) Robbins  
Principal cultural and serological methods used in the study of viruses and rickettsiae. For liberal arts graduate students. Prerequisite: Bacteriology 112 or 209 and permission of the instructor. Laboratory fee, \$10. 1952-53 and alternate years.
- 230 *Statistics in Microbiology* (3) Griffin  
The application of statistical methods to the problems of microbiology. For liberal arts graduate students. Prerequisite: entrance or elementary college algebra. 1953-54 and alternate years.
- 232 *Immunological Methods* (3) Griffin  
Preparation and testing of serological materials. Demonstration of basic serological phenomena. For liberal arts graduate students. Prerequisite: Bacteriology 112 or 209 and permission of the instructor. Laboratory fee, \$6. 1952-53 and alternate years.
- 240 *Advanced Epidemiology and Public Health* (3) Parr  
Conferences, readings, and problems for graduate students dealing with specialized and advanced phases of the topics presented in Bacteriology 210. Prerequisite: Bacteriology 210. 1953-54 and alternate years, time to be arranged.
- 293-94 *Staff Seminar* (1-1) The Staff  
For liberal arts graduate students. Bi-weekly throughout the year. Time to be arranged.

- 295-96 *Research in Bacteriology* (arr.)  
Time and credits to be arranged.

The Staff

- 299-300 *Thesis* (3-3)

The Staff

- 340 *Health Resources Survey*

Beachley and Staff

A survey of complete medical care from first contact, through laboratory and clinical diagnosis, adequate medical or surgical treatment to full family and community rehabilitation. Case histories assigned junior students with the cooperation and assistance of the clinical departments. Comparison is to be made between care in near-ideal facilities and care in facilities where the student might begin his practice. Emphasis is on coordination of the private practice of medicine and community public health and welfare activities, both tax supported and voluntary. Throughout the holistic point of view is assumed. One hour a week for three weeks and independent research.

- 401 *Public Health Practice*

Beachley

Study of public health practice at national, state, city, and county levels. Public and private agencies. One hour a week for eight weeks.

## BIOCHEMISTRY

Joseph Hiram Roe, Ph.D., *Professor of Biochemistry, Executive Officer*  
 William Henry Sebrell, Jr., M.D., *Professorial Lecturer on Nutrition*  
 George Washington Irving, Jr., Ph.D., *Professorial Lecturer on Proteins*  
 Bernard Leonard Horecker, Ph.D., *Professorial Lecturer on Enzymes*  
 Carleton Raymond Treadwell, Ph.D., *Associate Professor of Biochemistry*  
 Mary Mills Monier, Ph.D., *Assistant Professor of Biochemistry*  
 Benjamin Williams Smith, Ph.D., *Assistant Professor of Biochemistry*  
 Klaus Schwarz, M.D., *Associate in Biochemistry*  
 Anthony Vincent Baratta, B.S., *Teaching Fellow in Biochemistry*  
 Victor Schocken, Ph.D., *Fellow in Biochemistry*  
 Howard Stern, B.S., *Sanders Fellow in Biochemistry*  
 Tze-Tung Tang, M.S., *Sanders Fellow in Biochemistry*

### 113-14 *Biochemistry*

Physiological and clinical chemistry for the first-year medical student. Roe and Staff  
 Two lectures and two three-hour laboratory periods a week. Treadwell

### 221-22 *Biochemistry (4-4)*

A lecture and laboratory course for nonmedical students. Prerequisite: Chemistry 22 and 152. Material fee, \$12 a term. Tues. and Thurs., 9:00 to 12:00 A.M. and 1:00 to 2:00 P.M. Horecker

### 224 *Biochemistry of the Enzymes (1)*

Lecture course dealing with the biochemistry of the enzymes and enzyme reactions. Prerequisite: Biochemistry 113 or 221. Mon. 5:00 P.M. The Staff

### 225 *Biochemical Preparations (3)*

For liberal arts graduate students. Material fee, \$12. Time to be arranged. The Staff

### 226 *Biochemical Laboratory Methods (3)*

For liberal arts graduate students. Material fee, \$12. Time to be arranged. The Staff

### 227-28 *Biochemistry Seminar (1-1)*

The current literature in the field of biochemistry, mainly for graduate students, but open to a limited number of specially qualified medical students. Fri., 4:00 P.M. Roe

### 231 *Proteins and Amino Acids (1)*

A lecture course for liberal arts graduate students. Prerequisite: Biochemistry 114 or 222. 1953-54 and alternate years, Mon., 5:00 P.M. Irving



- 251 *Carbohydrate Metabolism* (1) Roe  
A lecture course. Prerequisite: Biochemistry 114 or 222. 1952-53  
and alternate years, Sat., 9:00 A.M.
- 261 *Biochemistry of the Lipids* (1) Treadwell  
A lecture course. Prerequisite: Biochemistry 114 or 222. 1953-54  
and alternate years, Sat., 9:00 A.M.
- 295-96 *Research in Biochemistry* (arr.) Roe, Treadwell  
Time and credits to be arranged.
- 299-300 *Thesis* (3-3) Roe, Treadwell
- 404 *Applied Nutrition* (1) Sebrell  
For senior medical students and graduate students. Lecture course  
upon dietary requirements, deficiency diseases, and therapeutic diets.  
Prerequisite: Biochemistry 113 or 221. Sat., 11:00 A.M.

## DERMATOLOGY AND SYPHILOLOGY

Harry Ford Anderson, M.D., *Professor of Dermatology and Syphilology, Executive Officer*  
 George William Creswell, A.B., M.D., *Assistant Clinical Professor of Dermatology and Syphilology*  
 Hayden Kirby-Smith, B.S., M.D., *Assistant Clinical Professor of Dermatology and Syphilology*  
 Theodore Claremont Chen Fong, M.D., *Associate in Dermatology and Syphilology*  
 James Quincy Gant, Jr., M.S., M.D., *Associate in Dermatology and Syphilology*  
 Wendell Melvin Willett, M.D., *Associate in Dermatology and Syphilology*  
 Reuben Goodman, M.D., *Clinical Instructor in Dermatology and Syphilology*

### 313-14 *Dermatology and Syphilology*

Lectures on diseases of the skin and syphilis. One hour a week. The Staff  
Fong

### 316 *Neurosyphilis*

Lectures, clinical demonstrations, and practical diagnostic and therapeutic procedures. One hour a week for eight weeks. The Staff

### 317-18 *Clinic*

Case demonstrations, diagnosis, and treatment of skin diseases and syphilis. Three hours a week. Gallinger Hospital. The Staff  
Childrens Hos-

### 407-8 *Clinic*

Dermatology and syphilology in infants and children. The Staff  
 Hospital. Two hours a week.

### 409-10 *Clinic*

Clinical demonstration, diseases of the skin. Two hours a week. The Staff  
 Emergency Hospital.

### 411-12 *Clinic*

Clinical demonstrations, diseases of the skin, and diagnosis and therapy of syphilis. Two hours a week. The Staff  
 University Hospital.

## MEDICINE

- Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Professor of Medicine*  
 Thomas McPherson Brown, A.B., M.D., *Professor of Medicine, Executive Officer*  
 Paul Frederick Dickens, M.D., *Clinical Professor of Medicine*  
 Charles Robert Lee Halley, A.B., M.D., *Clinical Professor of Medicine*  
 Clayton Bernard Ethridge, M.D., *Clinical Professor of Medicine*  
 Sol Katz, B.S., M.D., *Adjunct Clinical Professor of Medicine*  
 Louis Katz Alpert, B.S., M.D., *Adjunct Clinical Professor of Medicine*  
 Harry Eagle, A.B., M.D., *Adjunct Clinical Professor of Medicine*  
 Joseph Francis Fazekas, B.S., M.D., *Adjunct Clinical Professor of Medicine*  
 Clark Harvey Yeager, M.D., Dr.P.H., *Professorial Lecturer on Tropical Medicine*  
 Norman Hawkins Topping, A.B., M.D., *Professorial Lecturer on Rickettsial Diseases*  
 Robert William Berliner, B.S., M.D., *Professorial Lecturer in Medicine*  
 Monroe James Romansky, A.B., M.D., *Associate Professor of Medicine*  
 Peter Diacoumis Comanduras, M.D., M.S., *Associate Clinical Professor of Medicine*  
 Walter Kendall Myers, B.S., M.D., *Assistant Clinical Professor of Medicine*  
 John Alton Reed, A.B., M.D., *Assistant Clinical Professor of Medicine*  
 Theodore Judson Abernethy, B.S., M.D., *Assistant Clinical Professor of Medicine*  
 William Travis Gibb, Jr., A.B., M.D., *Assistant Clinical Professor of Medicine*  
 John McCallum Evans, A.B., M.D., *Assistant Clinical Professor of Medicine*  
 Carl Calvin Dauer, A.B., M.D., M.P.H., *Assistant Clinical Professor of Medicine*  
 Roy Hertz, Ph.D., M.D., *Assistant Clinical Professor of Medicine*  
 Alfred Henry Lawton, M.D., Ph.D., *Assistant Clinical Professor of Medicine*  
 Samuel Ross Taggart, M.D., *Assistant Clinical Professor of Medicine*  
 Benjamin Manchester, M.D., *Assistant Clinical Professor of Medicine*  
 \*Clarence Richard Hartman, A.B., M.D., *Assistant Clinical Professor of Medicine*  
 Watson William Eldridge, Jr., M.D., *Associate in Medicine*  
 Maurice Protas, A.B., M.D., *Associate in Medicine*

\* On national service leave



- Pearl Holly, M.S., M.D., *Associate in Medicine*  
 John Minor, A.B., M.D., *Associate in Medicine*  
 Lawrence Jay Thomas, B.S., M.D., *Associate in Medicine*  
 James Joseph Feffer, A.B., M.D., *Associate in Medicine*  
 Lawrence Elias Putnam, A.B., M.D., *Associate in Medicine*  
 John Watkins Trenis, A.B., M.D., *Associate in Medicine*  
 Bernard Lauriston Hardin, Jr., A.B., M.D., *Associate in Medicine*  
 Albert David Kistin, A.M., M.D., *Associate in Medicine*  
 Charles William Ordman, A.B., M.D., *Associate in Medicine*  
 Andrew Gabriel Prandoni, B.S., M.D., *Associate in Medicine*  
 Ruth Hechler Wichelhausen, M.D., *Associate in Medicine*  
 Benjamin Calloway Jones, Jr., M.D., *Associate in Medicine*  
 Richard Bernard Castell, A.B., M.D., *Associate in Medicine*  
 Myer Harold Stolar, B.S., M.D., *Associate in Medicine*  
 Sam Thompson Gibson, B.S., M.D., *Associate in Medicine*  
 Walter Lewis Nalls, B.S., M.D., *Associate in Medicine*  
 Christopher Campbell Shaw, Ph.B., M.D., *Associate in Medicine*  
 Thomas Booth Spencer, A.B., M.D., *Associate in Medicine*  
 Alfred Brigulio, M.D., *Associate in Medicine*  
 Halla Brown, M.D., *Associate in Medicine*  
 Ralph Bretney Miller, M.D., *Associate in Medicine*  
 Thomas Stone Sappington, A.B., M.D., *Associate in Medicine*  
 James Irving Boyd, M.D., *Lecturer in Medicine*  
 Elizabeth Harman Hill, M.D., *Instructor in Medicine*  
 John Bayne Marbury, M.D., *Clinical Instructor in Medicine*  
 Louis Ross, M.D., *Clinical Instructor in Medicine*  
 James Theodore Burns, M.D., *Clinical Instructor in Medicine*  
 Frederic Dunbar Chapman, A.B., M.D., C.M., *Clinical Instructor in Medicine*  
 Irvin Kerlan, B.S., M.D., C.P.H., *Clinical Instructor in Medicine*  
 Virginia Patterson Beelar, A.B., M.D., *Clinical Instructor in Medicine*  
 Lester Sylvan Blumenthal, A.B., M.D., M.S. in Med., *Clinical Instructor in Medicine*  
 Samuel Jacob Nathan Sugar, Phar.G., M.D., *Clinical Instructor in Medicine*  
 Charles Edward Law, M.D., *Clinical Instructor in Medicine*  
 Joseph Ney, B.S., M.D., *Clinical Instructor in Medicine*  
 Emil Herbert Bauersfeld, A.B., M.D., *Clinical Instructor in Medicine*  
 Henry Dunlop Ecker, B.S., M.D., *Clinical Instructor in Medicine*  
 John Wilmer Latimer, Jr., M.D., *Clinical Instructor in Medicine*  
 Luther Henry Snyder, A.B., M.D., *Clinical Instructor in Medicine*  
 Charles Wilson Jones, A.B., M.D., *Clinical Instructor in Medicine*  
 Joseph Beinstein, A.B., M.D., *Clinical Instructor in Medicine*  
 Stanley William Kirstein, M.D., *Clinical Instructor in Medicine*

- Thomas Joseph Pekin, M.D., *Clinical Instructor in Medicine*  
 Raymond Schwartz, A.B., M.D., *Clinical Instructor in Medicine*  
 Robert George Taylor, M.D., *Clinical Instructor in Medicine*  
 Charles Waters Thompson, M.D., *Clinical Instructor in Medicine*  
 Maurice Franks, M.D., *Clinical Instructor in Medicine*  
 James Walling Long, M.D., *Clinical Instructor in Medicine*  
 Frank Solomon Bacon, B.S., M.D., *Clinical Instructor in Medicine*  
 James Francis Ambury, B.S., M.D., *Clinical Instructor in Medicine*  
 William Otis Bailey, Jr., M.D., *Clinical Instructor in Medicine*  
 Harry Clark Bates, B.S., M.D., *Clinical Instructor in Medicine*  
 Andrew Joseph Brennan, M.D., *Clinical Instructor in Medicine*  
 Robert Lee Brickhouse, B.S., M.D., *Clinical Instructor in Medicine*  
 Robert Lee Brickhouse, B.S., M.D., *Clinical Instructor in Medicine*  
 Eugene Norwood Coale, B.S., M.D., *Clinical Instructor in Medicine*  
 Israel Solomen Gladsden, B.S., M.D., *Clinical Instructor in Medicine*  
 Maurice Kessler, M.S., M.D., *Clinical Instructor in Medicine*  
 Maurice Mensh, M.D., *Clinical Instructor in Medicine*  
 Francis James Murray, A.B., M.D., *Clinical Instructor in Medicine*  
 Edwin Pearson Parker III, B.S., M.D., *Clinical Instructor in Medicine*  
 Jack Jacob Rheingold, A.B., M.D., *Clinical Instructor in Medicine*  
 Morris Hirsh Rosenberg, A.B., M.D., *Clinical Instructor in Medicine*  
 Jeanne Cecile Bateman, A.B., M.D., *Clinical Instructor in Medicine*  
 John William Du Chez, M.D., *Clinical Instructor in Medicine*  
 Thomas Lees Hartman, A.M., M.D., *Clinical Instructor in Medicine*  
 William Raymond Merchant, A.B., M.D., *Clinical Instructor in Medicine*  
 Boris Rabkin, A.B., M.D., *Clinical Instructor in Medicine*  
 Morton Harold Rose, M.D., *Clinical Instructor in Medicine*  
 George Sharpe, A.B., M.D., *Clinical Instructor in Medicine*  
 Irene Gorski Tamagna, M.D., *Clinical Instructor in Medicine*  
 Warren Daniel Brill, B.S., M.D., *Clinical Instructor in Medicine*  
 Marvin Fuchs, B.S., M.D., *Clinical Instructor in Medicine*  
 Frank Goodnow MacMurray, A.B., M.D., *Clinical Instructor in Medicine*  
 William Jack Weaver, Jr., A.B., M.D., *Clinical Instructor in Medicine*  
 Ruth Boschwitz Benedict, A.B., M.D., *Clinical Instructor in Medicine*  
 Cyril Augustus Schulman, B.S., M.D., *Clinical Instructor in Medicine*  
 Louis Aleck Craig, Jr., A.B., M.D., *Clinical Instructor in Medicine*  
 Abraham Wolfe Danish, A.B., M.D., *Clinical Instructor in Medicine*  
 Milton Gusack, A.B., M.D., *Clinical Instructor in Medicine*  
 William Lewis, M.D., *Clinical Instructor in Medicine*  
 John Paul Young, M.D., *Clinical Instructor in Medicine*  
 Arthur Rosenbaum, B.S., M.D., *Clinical Instructor in Medicine*  
 Alvin Seltzer, B.S., M.D., *Clinical Instructor in Medicine*  
 Adolph Friedman, M.D., *Clinical Instructor in Medicine*



Samuel Dennis Loube, A.B., M.D., *Clinical Instructor in Medicine*  
 Celia White Tabor, A.B., M.D., *Clinical Instructor in Medicine*  
 Paul Heller, M.D., *Clinical Instructor in Medicine*  
 Alvin Edward Parrish, M.D., *Clinical Instructor in Medicine*  
 Alice Neuman Bessman, A.B., M.D., *Teaching Fellow in Medicine*  
 James Eliot Chapman, M.D., *Fellow in Cardiology*  
 Patricia Mary Hewlett, M.B., Ch.B., *Fellow in Pulmonary Diseases*  
 Thomas Kennedy, B.S., M.D., *Research Associate in Medicine*  
 Ray Lambert Miller, B.S., M.D., *Fellow in Cardiology*  
 Jack Orloff, M.D., *Research Associate in Medicine*  
 Asher Woldow, A.B., M.D., *Research Fellow in Cardiology*

- 132 *History of Medicine* The Staff  
 One hour a week.
- 236 *Clinical Microscopy* The Staff  
 Conferences and studies in the clinical application of laboratory examinations of blood, body fluids, exudates, and excreta. Three hours a week.
- 241 *Physical Diagnosis I* The Staff  
 Theoretical considerations of the principles of physical diagnosis. One hour a week.
- 242 *Physical Diagnosis II* The Staff  
 Covers not only theoretical but practical application of principles of physical diagnosis as related to examination of patients. Six hours a week.
- 244 *Introduction to Medicine* The Staff  
 Lectures covering the principles of internal medicine preparatory to clinical studies and training in the inpatient and outpatient services. Four hours a week.
- 320 *Medical Jurisprudence* The Staff  
 Lectures on the legal and ethical rights of physicians, and on the legal problems with which the physician comes in contact. One hour a week for sixteen weeks.
- 325-26 *Clinical Clerkships* The Staff  
 Training with bed patients under individual instruction designed to develop ability in examination of patients and case taking as well as practice in clinical microscopy. Eight weeks.
- 327-28 *Clinical Pathological Conferences I* Brown, Choisser  
 Required in the third year. Correlation of clinical and post-mortem findings; detailed case description from the clinical point of view followed by demonstrations of post-mortem findings. One hour a week.



- 339-40 *Therapeutic Conferences I* Staff of Medicine and Pharmacology  
Conferences designed to emphasize the application of pharmacological principles to the problems of clinical medicine. One hour a week.
- 349-50 *Medical Conferences* The Staff  
Two hours a week.
- 421-22 *Outpatient Clinics* The Staff  
Individual case studies under personal supervision of the Staff. Daily clinics on current medical problems and seminars stressing physiological aspects of diseases. Individual examinations and instruction in medical specialties. University and Emergency hospitals. Eight weeks.
- 423-24 *Clinical Clerkship* The Staff  
Available at the University, Emergency, Mt. Alto, and Walter Reed hospitals. Eight weeks.
- 427-28 *Clinical Pathological Conferences II* Brown, Choisser  
Required in the fourth year. Continuation of 327-28. One hour a week, in rotation.
- 431 *Forensic Medicine* The Staff  
Organized in conjunction with the University Law School for the purpose of acquainting medical students with their legal responsibilities. Three hours a week for four weeks.

## MILITARY SCIENCE AND TACTICS

Ray Lambert Miller, M.D., Captain, Medical Corps, United States Army, *Instructor in Military Science and Tactics, Executive Officer*

129-30 *Basic Course, Senior Division ROTC*  
(First Year)

Lectures designed to familiarize the student with the military policy of the United States, organization of the Army and Air Force, organization of the Army and Air Force Medical Service, map and aerial photograph reading, military law, etc.

Miller

247-48 *Basic Course, Senior Division ROTC\**  
(Second Year)

Instruction in radiological defense, aviation medicine, military preventive medicine, medical aspects of chemical and biological warfare, principles of military leadership, etc.

Miller

329-30 *Advanced Course, Senior Division ROTC\**  
(First Year)

A course including lectures on military medical research development, bandaging and splinting, field medicine, field surgery, aviation medicine, and military leadership.

Miller

429-30 *Advanced Course, Senior Division ROTC*  
(Second Year)

Lectures on military preventive medicine (advanced), field medicine, physical medicine in the Army, military neuropsychiatry, techniques of instructing, etc.

Miller

\* Students in the advanced course are selected from those who satisfactorily complete the basic course, or have one year active federal service.

## NEUROLOGY AND NEUROLOGICAL SURGERY

Walter Freeman, Ph.D., M.D., *Professor of Neurology, Executive Officer*

James Winston Watts, B.S., M.D., *Professor of Neurological Surgery*

Hyman David Shapiro, M.D., *Associate Clinical Professor of Neurology*

Robert Henry Groh, B.S., M.D., *Assistant Clinical Professor of Neurology*

Paul Chodoff, A.B., M.D., *Associate in Neurology*

James Peter Murphy, B.S., M.D., *Associate in Neurological Surgery*

Hugo Victor Rizzoli, A.B., M.D., *Associate in Neurological Surgery*

John McNeerney, M.D., *Associate in Neurological Surgery*

Jonathan Marshall Williams, M.D., *Associate in Neurological Surgery*

George Davis Weickhardt, M.D., *Clinical Instructor in Neurology*

Oscar Legault, A.B., M.D., *Clinical Instructor in Neurology*

John William Kemble, A.B., M.D., *Clinical Instructor in Neurology*

Marion Ballard Richmond, B.S., M.D., *Clinical Instructor in Neurology*

Harvey Ammerman, M.D., *Clinical Instructor in Neurosurgery*

Harold Le Roy Guterman, M.D., *Fellow in Neurology*

Ismael Mejia Rodriguez, M.D., *Fellow in Neurology*

### 249 Neuropathology (elective)

Gross and microscopic preparation of human pathology. Lectures and laboratory demonstrations. One hour a week.

Freeman, Legault

### 250 Neurology

Introductory lectures on clinical neurology with specimens, lantern slides, and motion pictures. One hour a week.

Freeman, Shapiro

### 331 Neurology and Neurological Surgery

Clinical lectures and demonstrations. One hour a week.

Watts, Shapiro

### 333-34 Neurology and Neurological Surgery, Clinical Clerkship

Instruction in history, physical examination, ordinary clinical procedures. Attendance at neurological operations. Gallinger Hospital. Six students in rotation, two weeks.

Freeman and Staff

### 335-36 Neurological Conference

Clinical conference one afternoon a week followed by clinicopathologic study of specimens from current necropsies. Gallinger Hospital. Two and one-half hours a week.

Freeman and Staff

### 431-32 Neurology and Neurological Surgery Clinic

Neurological outpatient clinic. Consultation of staff on ambulatory cases, demonstration of diagnostic procedures, disposition of neuro-psychiatric cases. University Hospital. Two hours a week.

Rizzoli and Staff



## OBSTETRICS AND GYNECOLOGY

- John Parks, M.S., M.D., *Professor of Obstetrics and Gynecology,  
Executive Officer*
- Radford Brown, M.D., *Clinical Professor of Obstetrics and Gynecology*
- Jacob Kotz, M.D., *Clinical Professor of Obstetrics and Gynecology*
- Henry Lauran Darner, A.B., M.D., *Clinical Professor of Obstetrics  
and Gynecology*
- Herbert Percy Ramsey, A.B., M.D., *Clinical Professor of Obstetrics  
and Gynecology*
- Charles Henry Nash, Jr., A.B., M.D., *Adjunct Clinical Professor of  
Obstetrics and Gynecology*
- Robert Henry Barter, M.D., *Associate Professor of Obstetrics and  
Gynecology*
- George Nordlinger, A.B., M.D., *Associate Clinical Professor of Ob-  
stetrics and Gynecology*
- Laurence Lee Cockerille, M.D., *Assistant Clinical Professor of Ob-  
stetrics and Gynecology*
- Samuel Mayor Dodek, A.M., M.D., *Assistant Clinical Professor of  
Obstetrics and Gynecology*
- Howard Pope Parker, A.B., M.D., *Associate in Obstetrics and Gyn-  
ecology*
- Roger O'Donnell, Jr., A.B., M.D., *Associate in Obstetrics and Gyn-  
ecology*
- Clayton Howard Hixson, M.D., *Associate in Obstetrics and Gynecology*
- Henry John Russell McNitt, B.S. in Med., M.D., *Associate in Obstet-  
rics and Gynecology*
- James Albert Dushabek, M.D., *Associate in Obstetrics and Gynecology*
- Clarence Kendall Fraser, Ph.B., M.D., *Associate in Obstetrics and  
Gynecology*
- Barton Winters Richwine, M.D., *Associate in Obstetrics and Gyn-  
ecology*
- Jeremiah Keith Cromer, M.D., *Associate in Obstetrics and Gynecology*
- Floyd Sterling Rogers, M.D., *Associate in Obstetrics and Gynecology*
- Rutus Martin Roll, A.B., M.D., *Associate in Obstetrics and Gyn-  
ecology*
- Katherine Elizabeth Parker, A.M., M.D., *Clinical Instructor in Ob-  
stetrics and Gynecology*
- William Dandridge Terrell, Jr., M.D., *Clinical Instructor in Obstetrics  
and Gynecology*

Julius Robert Epstein, M.D., Clinical Instructor in Obstetrics and Gynecology

Morton Selwyn Kaufman, A.B., M.D., Clinical Instructor in Obstetrics and Gynecology

Caroline Jackson, A.M., M.D., Clinical Instructor in Obstetrics and Gynecology

William Thurston Lady, M.D., Clinical Instructor in Obstetrics and Gynecology

Jed Williams Pearson, Jr., A.B., M.D., Clinical Instructor in Obstetrics and Gynecology

Samuel Hazen Shea, M.D., Clinical Instructor in Obstetrics and Gynecology

Thomas Miles Leonard, Ph.B., M.D., Clinical Instructor in Obstetrics and Gynecology

Albert Seymour Bright, M.D., Clinical Instructor in Obstetrics and Gynecology

Shirley Sue Martin, M.D., Clinical Instructor in Obstetrics and Gynecology

Neel Jack Price, B.S., M.D., Clinical Instructor in Obstetrics and Gynecology

Roland Essig Bieren, M.D., Clinical Instructor in Obstetrics and Gynecology

Alexander LeSueur Russell, M.D., Clinical Instructor in Obstetrics and Gynecology

Thomas Ashton Wilson, M.D., Clinical Instructor in Obstetrics and Gynecology

Marvin Peace Footer, A.B., M.D., Clinical Instructor in Obstetrics and Gynecology

254 *Normal Obstetrics*

Lectures and demonstrations on the physiology and management of normal pregnancy. One hour a week. Fraser, Dodek

301-2 *Manikin Demonstrations*

The mechanism of labor and various types of operative delivery demonstrated to sections of the junior class in weekly sessions. Footer

337-38 *Abnormal Obstetrics*

Lectures and demonstrations on the complications of pregnancy. One hour a week. Parks, Nordlinger

343-44 *Gynecology*

Lectures and demonstrations on the principles of gynecology. One hour a week. Brown, Darner, Barter

**441-42 Clinical Obstetrics**

Senior students participate in prenatal and postnatal clinic care; observe the course of labor and deliver patients under supervision; attend biweekly departmental conferences and daily ward rounds in the University and Gallinger hospitals.

Parks, Barter

**443-44 Clinical Gynecology**

Senior students observe and participate in the gynecological clinics and operating rooms of the University and Gallinger hospitals.

Parks, Barter



## OPHTHALMOLOGY

- Ronald Atmore Cox, A.B., M.D., *Professor of Ophthalmology, Executive Officer*  
 Ernest Alfred Watson Sheppard, M.D., C.M., *Clinical Professor of Ophthalmology*  
 Richard Wallace Wilkinson, M.S., M.D., *Associate in Ophthalmology*  
 Carmon Robert Naples, B.S., M.D., *Clinical Instructor in Ophthalmology*  
 Walter Joseph Romejko, M.D., *Clinical Instructor in Ophthalmology*  
 William Paxson Chalfant, Jr., M.D., *Clinical Instructor in Ophthalmology*  
 William Joseph Graham Davis, A.B., M.D., *Clinical Instructor in Ophthalmology*  
 Robert Edward duPrey, M.S., M.D., *Clinical Instructor in Ophthalmology*  
 Robert Day, A.B., M.D., *Clinical Instructor in Ophthalmology*  
 Glenn Orville Dayton, M.D., *Clinical Instructor in Ophthalmology*

### 351-52 *Ophthalmology*

The Staff  
 A lecture course presenting the principles of ophthalmology, with special reference to topics of importance to the general practitioner. One hour a week for sixteen weeks.

### 447 *Clinic*

The Staff  
 During medical outpatient service, each student is given individual instruction in the ophthalmological aspects of systemic disease.

## OTOLARYNGOLOGY

Daniel Bruce Moffett, A.B., M.D., *Professor of Otolaryngology, Executive Officer*  
 William Herndon Jenkins, M.D., *Clinical Professor of Otolaryngology*  
 Leroy Lee Sawyer, Jr., A.B., M.D., *Assistant Clinical Professor of Otolaryngology*  
 Aubrey David Fischer, M.D., *Associate in Otolaryngology*  
 Joel Norton Novick, M.S., M.D., *Clinical Instructor in Otolaryngology*  
 Homer King Vann, A.B., M.D., *Clinical Instructor in Otolaryngology*  
 Catharine Birch, A.B., M.D., *Clinical Instructor in Otolaryngology*  
 James Jerry McFarland, Jr., B.S., M.D., *Clinical Instructor in Otolaryngology*  
 Edward Clifford Jennings, B.S., M.D., *Clinical Instructor in Otolaryngology*  
 Aram Glorig, Jr., M.D., *Clinical Instructor in Otolaryngology*  
 Jack Louis Levine, M.D., *Clinical Instructor in Otolaryngology*  
 Morris Edward Krucoff, B.S., M.D., *Clinical Instructor in Otolaryngology*

- 451 *Otolaryngology* Moffett, Jenkins  
 Lectures and demonstrations on anatomy, physiology, and diseases of the ear, nose, and throat. One hour a week.
- 454 *Bronchoscopy* McFarland  
 A series of lectures on the fundamental principles and the use of instruments, including both the bronchoscope and esophagoscope. One hour a week for two weeks.
- 456 *Clinic* The Staff  
 Practical clinical instruction in the diagnosis and treatment of diseases of the ear, nose, and throat. University Hospital. One and one-half hours once a week.

## PATHOLOGY

Roger Morrison Choisser, B.S., M.D., *Professor of Pathology, Executive Officer*  
 Thomas Martin Peery, A.B., M.D., *Professor of Pathology*  
 Virgil Heath Cornell, M.D., Dr.P.H., *Professorial Lecturer in Pathology*  
 Robert Pelley Hill, B.S., M.D., *Associate Professor of Pathology*  
 Edward Clifford McGarry, A.B., M.D., *Assistant Professor of Pathology*  
 Frank Nelson Miller, B.S., M.D., *Assistant Professor of Pathology*  
 William John Schewe, B.S., M.D., *Clinical Instructor in Pathology*

### SEMINAR LECTURERS

Elson Bowman Helwig, B.S., M.D., *Professorial Lecturer in Pathology*  
 Hans Frank Smetana, M.D., *Professorial Lecturer in Pathology*  
 Henry Rappaport, M.D., *Professorial Lecturer in Pathology*  
 James Earle Ash, Jr., M.D., *Professorial Lecturer in Pathology*  
 Elizabeth Maplesden Ramsey, A.B., M.D., *Professorial Lecturer in Pathology*

### 259-60 Pathology

Choisser and Staff  
 Malformations, inflammations, degenerations, and neoplasms; special pathology of the organs and specific diseases. The laboratory work consists of the gross and microscopic study of diseased tissues. Necropsies are held regularly at the University and Gallinger hospitals.

### 307 Necropsy (elective)

The Staff  
 Students assist in the performance of necropsies. Fresh gross specimens and microscopic sections from each case are presented at weekly conferences. Current literature relating to cases is reviewed and presented by the students.

### 327-28 Clinical Pathological Conference

Choisser, Brown  
 Required in the third and fourth years. Case histories are presented and discussed by members of the staff and student body; necropsy and clinical findings are compared, and gross and microscopic specimens examined. One hour a week.

### 460 Research (arr.)

Choisser  
 Open to qualified nonmedical students. Hours and credits to be arranged.



## PEDIATRICS

- Preston Alexander McLendon, B.S., M.D., *Professor of Pediatrics, Executive Officer*
- Margaret Mary Nicholson, A.B., M.D., *Clinical Professor of Pediatrics*
- Edward Lewis, M.D., *Clinical Professor of Pediatrics*
- William Staton Anderson, A.B., M.D., *Clinical Professor of Pediatrics*
- Leroy Edward Hoeck, M.D., *Adjunct Clinical Professor of Pediatrics*
- John Phillip McGovern, B.S., M.D., *Assistant Professor of Pediatrics*
- Joseph Michael LoPresti, B.S., M.D., *Assistant Professor of Pediatrics*
- Mabel Harlakenden Grosvenor, A.B., M.D., *Assistant Clinical Professor of Pediatrics*
- John Augustine Washington, B.S., M.D., *Assistant Clinical Professor of Pediatrics*
- Aaron Nimetz, A.B., M.D., *Assistant Clinical Professor of Pediatrics*
- Dorothy Steinle Jaeger-Lee, M.D., *Assistant Clinical Professor of Pediatrics*
- George Maksim, M.D., M.S. in Ped., *Assistant Clinical Professor of Pediatrics*
- Reginald Spencer Lourie, M.D., *Associate in Pediatrics—Psychiatry*
- William Allen Howard, A.B., M.D., *Associate in Pediatrics*
- Samuel Paul Bessman, M.D., *Associate in Pediatrics*
- John Howell Peacock, B.S., M.D., *Associate in Pediatrics*
- Herbert Harold Diamond, M.D., *Clinical Instructor in Pediatrics*
- Reginald Henry Mitchell, M.D., *Clinical Instructor in Pediatrics*
- Maynard Irving Cohen, A.B., M.D., *Clinical Instructor in Pediatrics*
- Mary Katherine Laurence Sartwell, A.B., M.D., *Clinical Instructor in Pediatrics*
- Charles Frederick Stiegler, A.B., M.D., *Clinical Instructor in Pediatrics*
- Hugh Gambel Clark, A.B., M.D., *Clinical Instructor in Pediatrics*
- Adrian Recinos, Jr., B.S., M.D., *Clinical Instructor in Pediatrics*
- Allan Bertram Coleman, M.D., *Clinical Instructor in Pediatrics*
- Bennet Olshaker, A.B., M.D., *Clinical Instructor in Pediatrics*
- Robert Orr Warthen, M.D., *Clinical Instructor in Pediatrics*
- Emily Annabelle Black, M.D., *Clinical Instructor in Pediatrics*
- Robert Harper Anderson, M.D., *Clinical Instructor in Pediatrics*
- Warren Godfrey Preisser, A.B., M.D., *Clinical Instructor in Pediatrics*
- John Lewis Siddoway, M.D., *Clinical Instructor in Pediatrics*
- Robert Edward Martin, M.D., *Clinical Instructor in Pediatrics*
- Muriel Schatz Sowers, A.B., M.D., *Clinical Instructor in Pediatrics*
- William Stark, A.B., M.D., *Clinical Instructor in Pediatrics*
- Herbert Leo Reid, M.D., *Teaching Fellow in Pediatrics*

256 *Pediatrics*

McLendon and Staff  
Lectures on physiology of the newborn, development, infant nutrition, diseases of the newborn, common anomalies and system illnesses of childhood. Medical School. Two hours a week.

357-58 *Clinical Clerkship—General Pediatrics*

Nicholson, McGovern, and Staff

Introduction to clinical pediatrics. Emphasis on bedside discussion and group conferences including the newborn. Daily ward rounds. Gallinger Hospital. Six students in rotation, two weeks.

359-60 *Clinical Clerkship—Contagious Diseases*

McGovern and Staff

Conferences and bedside discussion in contagious and infectious diseases. Prevention and quarantine measures. Gallinger Hospital. Six students in rotation, two weeks.

361-62 *Clinical Conference*

McLendon, McGovern, and Staff

Required in third year. Presentation and discussion of current patient problems. Gallinger Municipal Hospital. One hour a week.

365 *Clinical Conference I*

McLendon and Staff

Required in the third year. Staff and student discussion of diagnosis and management. Medical School. One hour a week.

457-58 *Clinical Clerkship*

Anderson, LoPresti, and Staff

Full time including assignment to night and holiday admissions. Case studies on wards under direct Resident supervision. Ward rounds with Staff and Residents. Childrens Hospital. Twelve students, six weeks.

459-60 *Outpatient Clinics*

McGovern and Staff

Work in Medical and Specialty clinics including surgery, allergy, X-ray, child welfare, cardiology, dermatology, neurology, and child guidance. Childrens Hospital.

461-62 *Clinico-pathological Conference*

McLendon, Anderson, LoPresti, Washington

Clinical and pathological discussion of recent patient history and laboratory data. Childrens Hospital. Once a week.

463-64 *Group Conferences*

Anderson, LoPresti, and Staff

Discussion of clinical problems of diagnosis and treatment of current patients. Childrens Hospital. Twice a week.

465 *Clinical Conference II*

McLendon, LoPresti, and Staff

Required in the fourth year. Case presentation by fourth-year students. Staff and student discussion of diagnosis and management. Medical School. One hour a week.

466 *Child Guidance and Development*

Jaeger-Lee, Lourie

Lectures to second year class. Clerkship in fourth year including Well Baby Clinic. Group and class conferences.

## PHARMACOLOGY

- Paul Kenneth Smith, Ph.D., *Professor of Pharmacology, Executive Officer*  
 Erwin Ellis Nelson, M.D., Ph.D., *Adjunct Clinical Professor of Pharmacology*  
 Bernard Beryl Brodie, Ph.D., *Professorial Lecturer in Pharmacology*  
 \*Edward Lewis Alpen, Ph.D., *Assistant Professor of Pharmacology*  
 Harold George Mandel, Ph.D., *Assistant Research Professor of Pharmacology*  
 Pierre Emmanuel Carlo, Ph.D., *Assistant Professor of Pharmacology*  
 Harriet Mylander Maling, Ph.D., *Assistant Professor of Pharmacology*  
 Gloria Marie Comulado, M.S., *Teaching Fellow in Pharmacology*  
 Gaylord Maurice Conzelman, B.S., *Teaching Fellow in Pharmacology*  
 Patricia Elly, A.M., *Research Fellow in Chemotherapy*  
 Kenneth Kaname Takemoto, M.S., *Research Fellow in Chemotherapy*  
 James Leong Way, A.B., *Research Fellow in Pharmacology*  
 Helen Chiang-ying Yen, M.S., *Research Fellow in Pharmacology*

### 261 Pharmacology (5)

Lectures and conferences concerning the interaction of drugs and biological systems as a basis for the rational therapy of disease. Open to qualified nonmedical students. Five hours a week. The Staff

### 263 Pharmacology Laboratory (2)

Laboratory instruction and demonstrations designed to complement the above course. Open to qualified nonmedical students. Five hours a week. The Staff

### 265 Chemotherapy (1)

Five lectures a week for three weeks. For graduate students. Hours to be arranged. The Staff

### 267-68 Pharmacological Research (arr.)

Primarily for those properly qualified graduate and medical students seeking careers in pharmacology. Hours and credits to be arranged. The Staff

### 269-70 Pharmacology Seminar (1-1)

Recent advances in pharmacology. For those interested in pharmacological research. Open to qualified nonmedical students. Two hours a week. The Staff

### 279-80 Special Methods in Research (arr.)

A course to familiarize the student with advanced chemical and physiological methods employed in pharmacological investigations. Open to qualified nonmedical students. Hours and credits to be arranged. The Staff

\* On national service leave.



299-300 *Thesis* (3-3)

Required of Master of Arts and Master of Science candidates.

The Staff

339-40 *Therapeutic  
Conferences I*

Staff of Pharmacology and Medicine

Conferences designed to emphasize the application of pharmacological principles to the problems of clinical medicine. One hour a week.

## PHYSICAL MEDICINE AND REHABILITATION

Charles Samuel Wise, B.S., M.D., *Professor of Physical Medicine and Rehabilitation, Executive Officer*

Josephine Jordan Buchanan, A.M., M.D., *Assistant Clinical Professor of Physical Medicine and Rehabilitation*

Alvin Knudson, B.S., M.D., *Associate in Physical Medicine and Rehabilitation*

John Herman Kuitert, A.B., M.D., *Associate in Physical Medicine and Rehabilitation*

Jasper Wayne McFarland, B.S., M.D., *Clinical Instructor in Physical Medicine and Rehabilitation*

Dorothy Emily Voss, Ed.B., R.P.T.T., *Assistant in Physical Medicine and Rehabilitation*

Marjorie Katherine Ionta, B.S., *Assistant in Physical Medicine and Rehabilitation*

### 150 *Elements of Physical Medicine*

In arrangement with the Anatomy Department, lectures and demonstrations of the various tests and measurements are employed in the evaluation of physical disability. Emphasis is placed on normal and abnormal peripheral nerve testing (electrodiagnosis), muscle testing, joint range, and other physical disability measurements. The Staff

### 351-52 *Advanced Physical Medicine*

Lectures and demonstrations concerning the various techniques, clinical applications of physical medicine and rehabilitation to be integrated with the teaching of the associated medical and surgical specialties. The Staff

### 467-68 *Clinical Studies*

Clinical teaching and demonstration at the University Hospital. The Staff

### 485 *Research (arr.)*

Open to medical students and qualified nonmedical students. and credits to be arranged. The Staff  
Hours

## PHYSIOLOGY

Errett Cyril Albritton, A.B., M.D., *Fry Professor of Physiology*  
 Chester Elwood Leese, Ph.D., *Professor of Physiology, Executive Officer*  
 Joseph William Still, M.D., M.P.H., *Assistant Professor of Physiology*  
 Hyman Erwin Steinman, M.D., *Lecturer in Physiology*  
 Katherine Virginia Greene, A.M., *Instructor in Physiology*  
 Louis Pat Munan, M.S., *Associate in Physiology*  
 Robert Henry Brownson, M.S., *Fellow in Physiology*

### 115 *Physiology* (3)

Leese

Lectures for nonmedical students covering the fundamentals of physiology in its various subdivisions. Prerequisite: one year of general science or one term of a biological science. Section A: Tues., Thurs., and Sat., 9:10 A.M.; section B: Tues. and Thurs., 5:10 to 6:25 P.M.

### 117 *Experimental Physiology* (1)

Greene and Staff

Laboratory exercises in the fundamentals of physiology, for nonmedical students. Prerequisite or concurrent registration: Physiology 115 or the equivalent. Material fee, \$15. Sat., 10:10 A.M. to 1:00 P.M.

### 120 *Physiology of Endocrine Activity* (2)

Albritton, Munan

For nonmedical students. The circulatory, metabolic, reproductive, growth, and other adaptations, immediate and long term, accompanying and affecting endocrine activity. Prerequisite: Physiology 115 or the equivalent. Tues. and Thurs., 5:10 P.M.

### 130 *The Psycho-physiology of Personality* (2)

Leese

For nonmedical students. Lectures on the genesis and expression of personality, with emphasis on the physiological approach. Prerequisite: Physiology 115 or the equivalent and general psychology. Tues. and Thurs., 6:10 P.M.

### 150 *Advanced Physiology*

The Staff

One hundred twenty-five physiological lectures and one hundred twenty-five laboratory hours devoted to the major divisions of the subject. For medical students.

### 201-2 *Experimental Method* (1-1)

Albritton

For nonmedical graduate students. Design of controlled experiments in medical or biological investigation; errors in design; criticism and judgment of evidence; and tests of the statistical significance of experimental results. Sat., 9:00 A.M.

### 211-12 *Problems in Physiology* (arr.)

Albritton, Leese, and Staff

For nonmedical graduate students. Open to undergraduate students with the approval of the Department. Prerequisite: Physiology 115 and 117, or the equivalent. Hours and credits to be arranged.



221-22 *Physiology Seminar (1-1)*

For nonmedical students undertaking graduate work in physiology. Prerequisite: Physiology 115 and 117, or the equivalent. Throughout the year. The Staff

231 *Advanced Physiology of Circulation and Respiration (4)*

For nonmedical graduate students. Lectures on blood, heart, circulation, tissue water, respiration, and acid-base balance. Four hours a week, to be arranged. Albritton, Leese, and Staff

234 *Advanced Physiology of Nutrition, Metabolism, and Excretion (2)*

For nonmedical graduate students. Lectures on nutrition, metabolism, excretion, and temperature regulation. Two hours a week, to be arranged. Still, Steinman, and Staff

236 *Advanced Physiology of the Endocrine Glands and Reproduction (1)*

For nonmedical graduate students. Lectures on ductless glands, hormones, humoral agents, and reproduction. One hour a week, to be arranged. Albritton, Still, and Staff

238 *Advanced Physiology of the Neuro-Muscular System (2)*

For nonmedical graduate students. Lectures on sensory reception, central nervous processes, somatic and visceral motor activity, and the behavior of smooth and striped muscle. Two hours a week, to be arranged. Leese and Staff

240 *Advanced Experimental Physiology (3)*

For nonmedical graduate students. Laboratory work only. Correlated with the lectures in courses 231-238. Material fee, \$36. Nine hours a week, to be arranged. The Staff

295-96 *Research (arr.)*

Material fee, \$12 a credit hour. Hours and credits to be arranged. Albritton, Leese, and Staff

299-300 *Thesis (3-3)*

Albritton, Leese

## PSYCHIATRY

Winfred Overholser, A.B., M.D., Sc.D., *Professor of Psychiatry, Executive Officer*

Roscoe Willis Hall, Ph.B., M.D., *Clinical Professor of Psychiatry*

Solomon Katzenelbogen, M.D., *Clinical Professor of Psychiatry*

Addison McGuire Duval, M.D., *Clinical Professor of Psychiatry*

Sidney Berman, B.S., M.D., *Assistant Clinical Professor of Psychiatry*

Morris Kleinerman, Ch.D., M.B., *Assistant Clinical Professor of Psychiatry*

Leon Yochelson, A.B., M.D., *Assistant Clinical Professor of Psychiatry*

Henry Prather Laughlin, B.S., M.D., *Assistant Clinical Professor of Psychiatry*

Marshall de Graffenried Ruffin, B.S., M.D., *Assistant Clinical Professor of Psychiatry*

Harriet Elizabeth Twombly, A.B., M.D., *Associate in Psychiatry*

Norman Taub, B.S., M.D., *Associate in Psychiatry*

William Green Cushard, M.D., *Associate in Psychiatry*

Harold Corson, M.D., *Clinical Psychologist*

Helen Pallister, Ph.D., *Clinical Psychologist*

David Eden, A.B., M.D., *Clinical Instructor in Psychiatry*

165 *Dynamics of Personality Development* Berman  
An orientation course in the anatomical, physiological, and psychological growth and development of personality. Consideration of characteristics of structure, function, and development of the psyche leading to normal behavior as a basis for the study of the pathological. Evaluation of interpersonal relationships. One hour a week.

178 *Psychopathology* Hall  
Manifestations and understanding of various mental mechanisms and abnormal reaction-types, preceded by history of development of psychopathology and illustrated with case material. One hour a week.

266 *Psychiatry* Overholser  
History, etiology, symptoms, course, and treatment of the major psychoses with emphasis on the dynamics involving the person as a whole. One hour a week.

268 *Demonstration Clinics* Twombly, Cushard  
Presentation of clinical cases of major mental illnesses and primary behavior disturbances, correlating with Psychiatry 266. Each student examines patients under supervision. Three hours a week. St. Elizabeths Hospital.

- 271 *Psychosomatic Aspects of General Medicine* Katzenelbogen  
Somatic disorders of psychogenic origin. The role of personality reactions in functional and organic disorders. One hour a week.
- 324 *Psychoneurosis* Laughlin  
Etiology, psychopathology, clinical aspects, and treatment of various types of psychoneuroses. One hour a week for twelve weeks. Medical Conference Room, Gallinger Hospital.
- 326 *Psychological Techniques in Psychiatric Practice* Pallister  
Discussion of psychological concepts and tools available for determination of intellectual level, personality structure, functional impairment, and organic deterioration. One hour a week for four weeks. Medical Conference Room, Gallinger Hospital.
- 331-32 *Clinical Clerkship* Cushman, Taub  
Under supervision, each student conducts mental and physical examinations of patients, works up and presents his cases for discussion and conclusion. Two-week assignments by section. Gallinger Hospital.
- 431-32 *Clinical Clerkship* Duval, Kleinerman, Yochelson, Ruffin, Taub, Corson, Pallister, Eden  
Supervised examination, diagnosis, and treatment of ambulatory borderline cases in University Hospital and hospitalized cases in St. Elizabeths Hospital. Conferences for discussion of cases. Clinical application of psychiatric principles to general medical practice stressed. Three weeks divided service. University Hospital Inpatient and Outpatient Psychiatric clinics and St. Elizabeths Hospital.



## RADIOLOGY

William Woodrow Stanbro, M.D., *Professor of Radiology, Executive Officer*  
 Solomon Rodney Bersack, M.D., *Associate in Radiology*  
 Ludwig Carl Kroutil, A.B., M.D., *Associate in Radiology*  
 Charlotte Patricia Donlan, A.B., M.D., *Associate in Radiology*  
 Elmer Richard King, A.B., M.D., *Associate in Radiology*  
 George Tievsky, M.D., *Clinical Instructor in Radiology*  
 Uthai Vincent Wilcox II, M.D., *Clinical Instructor in Radiology*  
 Alvin Charles Wyman, A.B., M.D., *Clinical Instructor in Radiology*  
 Theodore Joseph Wang, Ph.D., *Physicist*

213	<i>Basic Radiology</i>	
	Orientation lectures in X-ray physics.	The Staff
341-42	<i>Radiological Diagnosis</i>	
	Lectures in conjunction with the course in Physical Diagnosis.	The Staff
358	<i>Advanced Radiological Diagnosis</i>	
	Lectures and discussions.	The Staff
449	<i>Clinical Studies</i>	
	Students assigned in rotation on a full-time basis for a specific period to the X-ray Department.	The Staff
478	<i>Research</i>	
	Hours to be arranged.	The Staff

## SURGERY

- Brian Blades, A.B., M.D., *Professor of Surgery, Executive Officer*  
 Daniel LeRay Borden, A.M., M.D., *Clinical Professor of Surgery*  
 Paul Stirling Putzki, M.D., *Clinical Professor of Surgery*  
 Arch Lockhart Riddick, B.S., M.D., *Clinical Professor of Surgery*  
 Custis Lee Hall, M.D., *Clinical Professor of Orthopedic Surgery*  
 John Hugh Lyons, M.S., M.D., *Clinical Professor of Surgery*  
 Paul Budd Magnuson, M.D., *Adjunct Clinical Professor of Surgery*  
 John Gordon Lee, A.B., M.D., C.M., Med. Sc.D., *Adjunct Clinical Professor of Surgery*  
 Sam Foster Seeley, B.S., B.M., M.D., *Adjunct Clinical Professor of Surgery*  
 Wallace Harry Graham, B.S., M.D., *Professorial Lecturer in Surgery*  
 Herbert Hermann Schoenfeld, M.D., *Associate Clinical Professor of Surgery*  
 Alec Horwitz, M.S., M.D., *Associate Clinical Professor of Surgery*  
 William Stanley McCune, A.B., M.D., *Associate Clinical Professor of Surgery*  
 Edward James Beattie, Jr., M.D., *Assistant Professor of Surgery*  
 Benjamin Franklin Dean, Jr., M.S., M.D., *Assistant Clinical Professor of Surgery*  
 Carl Berg, M.D., *Assistant Clinical Professor of Orthopedic Surgery*  
 Calvin Trexler Klopp, A.B., M.D., *Assistant Clinical Professor of Surgery*  
 Julius Salem Neviaser, A.B., M.D., *Assistant Clinical Professor of Orthopedic Surgery*  
 Jerome Blaine Harrell, M.D., *Assistant Clinical Professor of Surgery*  
 Leonard Theodore Peterson, B.S., M.D., *Assistant Clinical Professor of Orthopedic Surgery*  
 Walter Henry Gerwig, Jr., A.B., M.D., *Assistant Clinical Professor of Surgery*  
 Richard Knight Thompson, D.D.S., *Associate in Dental Surgery*  
 William Ross Morris, M.D., *Associate in Surgery*  
 Jacob Joseph Weinstein, B.S., Ph.D., M.D., *Associate in Surgery*  
 William Carey Meloy, M.D., M.S. in Med., *Associate in Surgery*  
 Edward Alexander Cafritz, M.D., *Associate in Dental Surgery*  
 Karl Hayden Wood, Ph.D., D.D.S., *Associate in Surgery*  
 Vincent Michael Iovine, B.S., M.D., *Lecturer in Surgery*  
 James Leo Kelley, A.B., M.D., *Instructor in Surgery*  
 John Mitchell, B.S., M.D., *Instructor in Surgery*  
 Crenshaw Douglas Briggs, B.S., M.D., *Clinical Instructor in Surgery*

377-78 *Orthopedics I*  
Weekly orthopedic lecture, Gallinger Hospital; weekly seven and one-half hour ward rounds. Gallinger Hospital.  
The Staff  
The Staff  
On national service leave.



379-80 *Surgical Staff Conference I*  
Tuesday at Gallinger Hospital.

383-84 *Surgical Clinic I*  
Demonstration of various surgical diseases to the entire third-year class. One hour a week.

473-74 *Clinical Clerkships II*  
University Hospital, six weeks. Mt. Alto or Emergency Hospital, three weeks.

479-80 *Surgical Staff Conference II*  
Wednesday at the University Hospital.

483-84 *Surgical Ward Rounds*  
Demonstration of various surgical diseases to fourth-year clerks. University Hospital. One hour a week.

491-92 *Surgical Pathology II*  
One hour conferences each week.

493-94 *Surgical Anatomy*  
Lectures for fourth-year clerks. University Hospital. One hour a week for twelve weeks.

497-98 *Surgical Clinic*  
Conferences for fourth-year clerks assigned to the University Hospital. Walter Reed Hospital. Two hours a week.

The Staff

Blades

The Staff

The Staff

Blades

Uni-

Hill

Blades and Staff

Hospital. One hour a

Blades and Staff

University Hospital.

## UROLOGY

Frederick A. Reuter, M.D., *Professor of Urology, Executive Officer*  
 Thomas Carlton Thompson, B.S., M.D., *Clinical Professor of Urology*  
 Gilbert Ottenberg, A.M., M.D., *Associate in Urology*  
 William Dabney Jarman, B.S., M.D., *Associate in Urology*  
 Edward Egner Ferguson, M.D., *Associate in Urology*  
 Leon Richard Culbertson, B.S., M.D., *Associate in Urology*  
 Gordon Rhodes MacDonald, B.S., M.D., *Clinical Instructor in Urology*  
 Herbert DeGrange Wolff, Jr., M.D., *Clinical Instructor in Urology*

395-96 *Clinics*

Clinical teaching and demonstrations on the care of urological cases with special emphasis on the pre- and post-operative management. Operative clinics and clinical teaching. Gallinger Hospital.

The Staff

491-92 *Urology*

Lectures covering the entire field of urology including diagnosis, treatment, and morbid pathology. One hour a week.

Reuter and Staff

495-96 *Clinics*

Clinical demonstrations and teaching in the Outpatient Department with special attention given to diagnostic procedures. University Hospital. One part of each section three hours a week.

Reuter and Staff

# DEGREES CONFERRED

## DOCTOR OF MEDICINE

MAY 30, 1951

Juan Araújo Vidal	Puerto Rico	Martin Edward Hansen	Calif.
B.S. 1940, University of Puerto Rico		Theodore Reed Hopkins	Ala.
Jeanne Frances Barinott	D.C.	A.B. 1947, Stanford University	
B.S. 1947, Pennsylvania State College	N.J.	Robert Lynwood Howard	Va.
Joseph Frederick Barr	Pa.	A.B. 1948, University of Alabama	
William John Barrison, Jr.		James Brooke Hutt, Jr.	Calif.
B.S. 1946, Pennsylvania State Teachers College, East Stroudsburg		B.S. in E.E. 1942, University of Michigan	D.C.
Harry Barton Beatty	Va.	Grant Lafayette Hyde	
A.B. 1948, The George Washington University		Howard Hamilton Johnson, Jr.	Ohio
Robert Hahn Berry	Ohio	A.B. 1948, The George Washington University	Va.
(With distinction)		Raymond Riggs Klika	Pa.
Thomas Calvin Blair	Mich.	Robert Lawrence Krichmar	
B.S. 1947, University of Michigan		A.B. 1941, Boston University	Tenn.
John Frederick Blue	N.C.	Jay Donald Lasher	
B.S. 1943, North Carolina State College		B.S. 1949, University of Pittsburgh	Mo.
(With distinction)		Roy William Laughmiller, Jr.	
Irene Joan Uhrik Boone	N.M.	A.B. 1947, Maryville College	
B.S. 1943, M.S. 1946, Pennsylvania State College		David Rino Lenarduzzi	D.C.
John Andrew Bowler, Jr.	D.C.	A.B. 1948, The George Washington University	
A.B. 1949, The George Washington University		William Stewart Lyons	Ohio
John Grover Bradley	Nev.	A.B. 1949, The George Washington University	Calif.
Edgar Newlon Brawner, Jr.	D.C.	Richard Gledhill Manthey	
Robert Burton Breeding	Ky.	B.S. 1948, Western Reserve University	Me.
A.B. 1944, Transylvania University		Doris Katherine Martens	
B.S. 1944, University of Kentucky		A.B. 1944, University of Southern California	D.C.
James Crawford Bruce	D.C.	Thomas Ernest Mattingly, Jr.	D.C.
Ralph John Cole	Pa.	A.B. 1948, The George Washington University	
A.B. 1948, The George Washington University		James Robert McClelland	D.C.
Charles David Cooper	D.C.	Violet Kellogg McCune	
A.B. 1948, The George Washington University		A.B. 1948, The George Washington University	W.
Jack Crowell	Md.	Joseph Russell McWhirt	
B.S. 1947, The George Washington University		A.B. 1948, The George Washington University	Pa.
James Corwin DeWitt	Va.	Grant William Miller	
B.S. 1943, Mount Union College		B.S. 1947, University of Washington	Mass.
Maryanna Elizabeth Dotson	D.C.	John Baptiste Monier	
A.B. 1948, The George Washington University		B.S. 1941, University of Pittsburgh	N.Y.
Seymour Dubroff	D.C.	Roger William O'Gara	
A.B. 1948, The George Washington University		A.B. 1948, The George Washington University	
Morton Philip Easot	D.C.	Joseph William Pidgeon	
A.B. 1947, Yale University		Elizabeth Price	D.C.
Jack Fealy	Ala.	A.B. 1941, Columbia University	
B.S. 1947, Birmingham-Southern College		A.M. 1944, University of Minnesota	Pa.
Richard Albert Foebel	Ohio	Roy Elliot Ritta, Jr.	
B.S. 1948, Western Reserve University		A.B. 1948, The George Washington University	Ind.
John William Gates	Calif.	Joseph William Robertson	
Albert Bernard Gerbie	Ohio	B.S. 1947, Agricultural and Mechanical College of Texas	
Clifford James Goodman	Ala.	Eugene Debs Robin	
B.S. 1947, The George Washington University		(With distinction)	
Keith Carpenter Greaves	Idaho	B.S. 1945, M.S. 1946, The George Washington University	
Eugene Harding Guthrie	Md.	George William Sandiford	



# *The School of Medicine*

81

William Francis Schmidt A.B. 1949, The George Washington University	N.Y.	Teunis Philip Waskles (With distinction)	Mich.
Maxine Ann Schurter (With distinction)		A.B. 1941, Hope College	
A.B. 1944, Pomona College	Calif.	Ph.D. 1945, Ohio State University	
Julius Louis Schwartz		Warren Ernest Clyde Wacker (With distinction)	Va.
A.B. 1947, New York University	N.Y.	Robert Lee Wade	
Samuel Rodmond Smith		Benjamin Murray Whisenand	Calif.
A.B. 1948, The George Washington University	Va.	William Dean Wilson	Oreg.
Ernest Joseph Thorpe		B.S. 1948, University of Wyoming	Wyo.
B.S. 1948, Western Reserve University	Ohio	Robert Kenneth Wineland	D.C.
Charles Eby Townsend		A.B. 1948, The George Washington University	
A.B. 1948, The George Washington University	D.C.	Ralph Lane Wroth	Pa.
Malcolm Stickie Van de Water		A.B. 1947, Kenyon College	
Joe Ramon Vigoreaux Rivera	Fla.	Michael Allen Young	Conn.
	Puerto Rico	Robert Young	D.C.
		A.B. 1948, The George Washington University	

STUDENTS REGISTERED IN  
THE SCHOOL OF MEDICINE

1951-52

A

Aaronson, Charles Martin (I)  
 Albert, Harold Franklin (II)  
 B.S. 1950, Muhlenberg College  
 Applegate, David Carl (II)  
 A.B. 1950, University of California  
 Armstrong, Richard Merrill (II)  
 B.S. 1950, University of Idaho  
 Ashworth, Charles Raymond (III)

D.C.  
Pa  
Calif.  
Idaho  
Idaho

Brodie, Dorothy Ray (III)  
B.S. 1949, The George Washington  
University  
Bullock, Robert Graham (II)  
A.B. 1950, Johns Hopkins University  
Burns, Loretta Ernest (I)  
B.S. 1951, University of California  
Butler, Bruce, Jr. (I)  
B.S. 1951, Franklin and Marshall  
College  
Butrey, Charles (II)  
Western Reserve University

D

Bacchus, Habeeb (II) British Guiana  
B.S. 1947, Howard University  
M.S. 1948, Ph.D. 1950, The George  
Washington University

Bahr, Robert Dennis (II)  
B.S. 1930, University of Wisconsin  
Baker, Gordon (I)  
Ball, Carl Eugene (III)  
A.B. 1955, The George Washington  
University

Baratta, Michael Vincent (III)  
A.B. 1949, Columbia University  
Barkin, Gilbert Donald (III)  
B.S. 1949, The George Washington  
University

Barnett, Robert Alexander (IV)  
A.B. 1949, The George Washington  
University

Barr, Solomon Efrem (II)  
A.B. 1951, The George Washington  
University

Bashore, Richard Albert (I)  
A.B. 1951, University of California  
Poetry, Franklin David (I)

Behrens, Charles Donald (1)  
B.S. in E. E. 1943, Duke University  
Montana State University

Bellomy, Bruce Ben (IV)  
Bergstrom, Roger Heaner (IV)

AB 1949, Mount Holyoke College  
Bloom, Joseph (11)

Bloom, Joseph (II)  
A.B. 1949, Brown University  
Blum, Fred G., Jr. (II)  
B.S. 1950, University of Wisconsin

B.S. 1950, University of Wisconsin  
Boone, Aretas Cephas (II)  
A.B. 1959, Stanford University

A B 1949, The George Washington University

Bowly, Lawrence Vaughan (II)  
B.S. 1950, American University  
Bond, Milton Alexander (II)

Brady, Neal Caldwell (IV)  
B.S. 1957, Western Reserve Univ.

B.S. 1947, Western Reserve Univ.  
Brennan, Robert James (IV)  
A.B. 1949, The George Washington

Brewer, Robert George (IV)  
AB 1948, Hamilton College

Guinea

C

Cahan, Jules Isaac (III)  
B.S. 1949. The George Washington  
University. Career (I)

Calvert, Beverly Carver (1)  
Calvert, Francis Nelson (1)  
A.B. 1951, Howard College  
Camp, Samuel Adams (1)  
University of Georgia

AB 1930, University of  
Carter, Jerome Wolf (I)  
Cantrell, Joe Randle (I)  
Carlin, John Thomas, Jr. (II)  
University of Alabama

Carlton, John Nelson (II)  
B.S. 1950, University of  
Washington  
Carlton, Harry Nelson (II)  
B.S. 1949, M.S. 1950, The George  
Washington University  
(IV)

Carr, George Lafayette (IV)  
Carter, Thomas Nelson (I)  
B.S. 1958, American University  
James William (II)  
University of

Chancy, James W. Williams  
A.B. 1949, Catholic University  
America  
M.S. 1950, The George Washington  
University

Chapman, John Timothy (I)  
Chervenak, William Aloysius (I)  
Clinkston, Philip (IV)  
University of Michigan  
University of Washington

B.S. 1942, The George Washington University  
M.S. 1948, The George Washington University  
Cobb, Leonard Cowell (III)  
University of Washington

Cook, Thomas Charles (I)  
Coley, Herbert Franklin (III)  
Coley, Robert T. (III)  
Wake Forest College

Colley, B.S. 1948, Wake Forest  
Cohen, Melvin S. (III)  
A.B. 1918, Brooklyn College  
B.S. 1949, The George Washington

University of California  
Coleman, Prokopos (II)  
A.B. 1951, The George Washington  
University and Eugene (I)  
University of California

Collins, Kenneth Claude (I)  
Conklin, Harvey Badeau (I)  
Ohio Wesleyan University (III)

Conner, Ray Bradford, Jr. (111)

Connor, Charles David (III) A.B. 1949, East Carolina Teachers College	N.C.	Esch, Albert Frederick (II) A.B. 1949, A.M. 1950, The George Washington University	D.C.
Coram, Frank John (I) A.B. 1950, San Diego State College	Calif.	Everett, Gerald Waddell (II) A.B. 1951, The George Washington University	Md.
Corrado, Michael Anthony (IV) A.B. 1949, The George Washington University	Md.	Everhart, Clarence Edward, Jr. (IV) B.S. 1948, Western Reserve University	Ohio
Corwin, Leonard Joel (IV) B.S. 1947, Rutgers University	N.J.		
Costas, Raul Jr. (III) B.S. 1949, Villanova College	Puerto-Rico		
Coultrip, Raymond Laverne (IV) Graduate, Robert Herman (II)	D.C.	Farr, Boyd Joseph (IV) Febles, Francisco (I) B.S. 1950, The George Washington University	Md. Puerto Rico
Crummett, John David (I) Culver, John Rush (I)	Idaho D.C. Mich.	Federle, Jesse Alan (IV) A.B. 1949, The George Washington University	Nebr.
	Ohio	Feltman, David Brown (I) Feltman, Robert Feece (IV) A.B. 1949, The George Washington University	Va. Va.
Danford, James Arthur (II) B.S. 1950, University of Dayton	Ohio	Ferguson, William Holmes (III) B.S. 1949, University of Tulsa	Okla.
Davis, David Stanley (III) A.B. 1950, The George Washington University	Ohio	Fernbach, Donald Joseph (IV) A.B. 1948, Tusculum College	N.Y.
Davis, Martin Thomas (II) B.S. 1948, Rensselaer Polytechnic Institute	Conn.	Flickinger, Ted Lawrence (II) B.S. 1950 Western Reserve University	Ohio
Davis, Thomas McLellan, Jr. (IV) A.B. 1949, The George Washington University	D.C.	Fochios, Steve Evangelos (II) B.S. 1949, University of Maryland	Md.
Dawson, Shelton Phelps (I) A.B. 1950, Western Maryland College	Utah Md.	Foor, Milton A. (IV) A.B. 1947, University of Southern California	D.C.
Deiman, Robert Michael (III) B.S. 1949, University of Pittsburgh	Md.	Foulke, Charles William (III) A.B. 1949, Ohio State University	Ohio
Dobson, Richard Hal (III) B.S. 1949, Kansas State College of Agriculture and Applied Sciences	Kans.	Freebairn, J. Richard (I) Furlow, William Loomis (III) A.B. 1949, Carleton College	Calif. Minn.
Domano, William Arthur (III) B.S. 1948, University of Wisconsin	Wis.		
Dorey, James Douglas (III) B.S. 1949, Villanova College	N.J.		
Duane, Edward Ailey (IV) A.B. 1950, Harvard University	D.C.	Gall, John Christian, Jr. (III) B.S. 1949, Yale University	D.C.
Dyer, John Benedict, Jr. (IV) A.B. 1948, University of California at Los Angeles	Calif.	Gallinek, Wilfred Ernest (I) A.B. 1951, Syracuse University	N.Y.
Dyess, Kenneth Adair (III) A.B. 1949, Augustana College	S.D.	Gargano, Freddie Patrick (IV) B.S. 1947, The George Washington University	N.J.
Dyke, Charles Creighton (III) B.S. 1949, University of Nevada	D.C.	Geer, Wesley Harmon (I) A.B. 1951, University of California at Los Angeles	Calif.
Dyke, Virginia Anne (I) A.B. 1942, Sweet Briar College	Va.	Gill, Charles Richard (I) A.B. 1951, Lafayette College	Md.
Dye, Robert Francis (I) A.B. 1951, University of Michigan	D.C.	Gillard, William Henry (III) A.B. 1950, The George Washington University	D.C.
		Gillim, Parvin Douglas (I) A.B. 1951, Dartmouth College	Ky.
Edelson, Harold Norris, Jr. (IV) B.S. 1949, University of Maryland	Md. Md.	Gimble, Abraham Isaac (IV) B.S. 1943, M.S. 1948, The George Washington University	D.C.
Eisenbraun, W. Hord Russell (IV) B.S. 1949, The George Washington University	N.J.	Ginsberg, David Kellner (II) A.B. 1951, The George Washington University	Md.
Eisenberg, David (IV) A.B. 1949, The George Washington University	Md.	Glew, William Bainbridge (III) B.S. 1950, Yale University	D.C.
Edgar, Donald Quentin (II) A.B. 1950, University of Washington	Wash.	Golbey, Gloria Swanson (IV) A.B. 1949, The George Washington University	D.C.
Edgar, Harry Hughes (IV) B.S. 1948, Bryn Mawr Young University	Utah		
Edgar, Jerome Harold (III) A.B. 1949, New York University	D.C.	Gordon, Howard Leo (III) B.S. 1948, Georgetown University M.S. 1949, The George Washington University	Fla.



Gordon, James Kirke (IV) A.B. 1949, The George Washington University	Va.	Jungblut, Edward Wilmont (II) A.B. 1950, The George Washington University	N.J.
Gould, Stanley Benton (III) B.S. 1949, Haverford College	Md.	K	Md.
Green, William Oliver, Jr. (IV) A.B. 1949, The George Washington University	D.C.	Kane, William Matthew, Jr. (II) A.B. 1950, College of the Holy Cross	Va. D.C.
Grunsten, Russell Carl (III)	Fla.	Kellam, Donald Swift, Jr. (I) Kerr, Horace Eskew (IV) A.B. 1950, The George Washington University	D.C. Pa.
H	Ohio	Kiczales, Adolphe Charles (I) Kiel, Frank Wilson (II) A.B. 1950, University of Pittsburgh	Md.
Hagen, William August, Jr. (IV) A.B. 1948, Hiram College	N.J.	Kingsley, Paul L. (III) B.S. 1937, Northwestern University	Md.
Hall, Allan (IV) A.B. 1949, The George Washington University	N.J. D.C.	M.S. 1940, University of California at Los Angeles	N.J. Md.
Harrigan, John Thomas (III) Harris, Forrest Klaine (III) B.S. 1949, The George Washington University	Wis.	Kinaman, Robert Gordon (III) A.B. 1950, The George Washington University	N.J. Md.
Harris, John Warton, Jr. (II) A.B. 1950, University of Wisconsin	N.J.	Kirby, James Chasey, Jr. (I) Kirby, Taylor Mesman (III) A.B. 1949, Birmingham Southern College	Md.
Hart, John Thomas (I) B.S. 1951, Rutgers University	Conn.	Kirchner, Francis Carlyle (IV) B.S. 1948, The George Washington University	Va. D.C.
Hayes, Cornelius John (II) A.B. 1950, Yale University	W.Va. D.C.	Kirk, Michael James (II) Kleib, Thomas Robert (III) Klein, David Mendel (III) Knapp, Robert Duane, Jr. (IV) A.B. 1948, The George Washington University	Pa. Va. Calif. D.C.
Healy, Paul Thomas (III) Heney, Gregory Thomas (IV) A.B. 1949, The George Washington University	D.C.	Knox, Paul Raymond (II) A.B. 1950, University of California	D.C.
Herd, Jean Robert (II) A.B. 1950, Johns Hopkins University	Wis.	Kramer, Norman Clifford (II) B.S. 1948, The Citadel M.S. 1950, The George Washington University	N.Y.
Heywood, Robert Monroe (II) B.S. 1950, University of Wisconsin	Md.	Krichell, Irvin (I) B.S. 1951, Pennsylvania State College	N.Y.
Hicks, Herbert Hollis (II) A.B. 1950, Harvard University	N.J.	Kritzer, Herbert (II) A.B. 1948, Syracuse University	N.J.
Higbee, Charles Eldon (IV) Hilbert, Fred George (I) A.B. 1951, Syracuse University	Calif.	A.M. 1949, University of Pennsylvania	N.J.
Hiltabiddle, Stephen Bartholf (I) A.B. 1951, Lafayette College	Ala.	Kramer, Lawrence Ray (I) Kutema, Frederick Henry (II) B.S. 1950, Union College	N.Y.
Hoheh, Richard Winfield (I) Hollingsworth, James Boettler (III) Hollis, Charles Jonathan (II) B.S. 1949, University of Alabama	N.Y.	L	Tenn.
Honig, Doris Marcelle (IV) A.B. 1944, Hunter College	Calif.	La Motte, Peter (I) Langstaff, Samuel Husbands, Jr. (I) A.B. 1951, Oberlin College	Calif. Md.
Horowitz, Bruce Gordon (I) A.B. 1950, Harvard University	Md.	Larson, Robert LeRoy (III) A.B. 1949, Montana State University	Calif.
Horton, Richard Edward (II) Houk, Vernon Neal (II) Howard, Perry John (III) B.S. 1949, University of Alabama	Ala.	Leabhart, John William, Jr. (III) Leary, Patrick James (III) Lee, Mei Kit (I) Levitsky, Leon Robert (II) College B.S. 1951, Muhlenberg College	D.C.
Huffman, Richard Myall (I) A.B. 1951, Haverford College	D.C.	Lewis, Edward, Jr. (I) A.B. 1951, The George Washington University	Calif.
Huntton, Richard Edwin (IV) A.B. 1949, The George Washington University	Calif.	Lidsky, Martin David (II) B.S. 1950, The George Washington University	D.C.
Huntwork, Bruce Leslie (I)	D.C.	Linaweaver, Paul Glenwood, Jr. (I) A.B. 1951, Duke University	D.C.
I		Lozano, Paul Herbert (I) Loom, Charles W., Jr. (II) Longbottom, Don Woodward (III) A.B. 1948, The George Washington University	Utah N.C.
Ice, Inez Lorraine (III) B.S. 1949, University of Rochester			
Ice, John Frederick (II) Jonno, Joseph Anthony (I) A.B. 1951, The George Washington University			
J			
Jensen, Jack Monsen (III) Johnston, Harvey Wyle (IV) B.S. 1949, The University of North Carolina			

Lyons, John Hugh, Jr. (I) B.S. 1950, Virginia Military Institute	D.C.	Miller, Robert Thomas (III) B.S. 1949, Rutgers University	N.J.
M		Minard, William Douglas, Jr. (I) B.S. 1951, Queens College	N.Y.
Machle, Willard Frank (II) A.B. 1950, Harvard University	Fla.	Modlin, Albert Jay (II) B.S., M.S. 1949, The George Washington University	D.C.
Mason, Edward Malcolm (I) B.S. 1951, The George Washington University	Va.	Monvak, John George (IV) B.S. 1949, Geneva College	Pa.
Martley, Dale Hammer (III) B.S. 1948, A.B. 1949, Idaho College	Idaho	Morledge, Charles Calvin (IV) B.S. 1950, Haverford College	Mont. Md.
Mahaney, John Gage (II) B.S. 1949, Michigan State College	Mich.	Morrill, Roger Merritt (II) B.S. 1950, University of Akron	Md. Ohio
Marcella, Lawrence Charles (I) B.S. 1951, Pennsylvania State College	Pa.	Morrison, Thomas Lloyd (I) Muehonen, Oliver Adolph (IV)	
Marwood, Carl Christopher (III) B.S. 1948, St. Vincent College	Pa.	Murphy, William Raymond, Jr. (I) B.S. 1949, University of Akron	
Mason, John William (II) A.B. 1950, Carleton College	N.J.	N	
Marsburn, Theodore Franklin (I) A.B. 1951, Whittier College	Calif.	Nason, John Peter (IV) A.B. 1947, University of Minnesota	Md.
Martin, John Oliver (I) A.B. 1951, Washington and Lee University	Va.	Negulescu, Paul (I) B.S. 1951, The George Washington University	D.C.
Martin, John Peter (I) A.B. 1950, University of California	Md. Calif.	Nelson, Warren James (III) B.S. 1948, University of Wisconsin	Ariz.
Mason, Lyman Gates (I) A.B. 1948, Albroton College	Md. Maine	O	
Mason, Paul Raymond (IV) A.B. 1948, Albroton College	Mich.	Oakley, George D. (IV) A.B. 1948, University of Hawaii	Hawaii
Mazero, John Robert (II) A.B. 1951, The George Washington University	Pa.	Oatrel, Ruth Anne (II) B.S. 1950, University of Maryland	D.C.
McConnell, Joseph Aaron (III) B.S. 1948, Utah State Agricultural College	Utah	Olschlager, Gerald Albert (III) B.S. 1949, University of Scranton	Wis. Pa.
McCone, Frederick Kenneth (I) B.S. 1951, Grove City College	Pa.	O'Rourke, Franklin Sewall (I) A.B. 1950, Lafayette College	N.J.
McGregor, John Gregor, Jr. (III) A.B. 1949, Stanford University	Pa.	Owen, Richard Roberts (III) B.S. 1949, The George Washington University	Ind.
McGraw, Clinton Jackson, Jr. (I) A.B. 1950, The George Washington University	Ariz.	P	
McIntosh, Garland Young, Jr. (I) A.B. 1950, The George Washington University	Va.	Padgett, Glenn Ernest (III) A.B. 1947, Duke University	Fla.
McIntosh, John Wallace (III) A.B. 1950, The George Washington University	Okla. Md.	Palmer, Barber Clayton, Jr. (II) A.B. 1950, Dartmouth College	Md.
McIntosh, Howard Gurr (I) B.S. 1949, Georgetown University	Utah	Parkinson, Roger West (II) A.B. 1950, Catholic University of America	Md. Mo. D.C.
McIntosh, Thomas Francis (II) B.S. 1949, Georgetown University	D.C.	Pemberton, Henry Walter (IV) A.B. 1947, Amherst College	Minn.
McIntosh, William Lloyd (I) B.S. 1951, Alabama Polytechnic Institute	Va.	Peppard, Matthew James (I) A.B. 1951, Harvard University	Fla.
McIntosh, John Harbeck, Jr. (IV) A.B. 1950, Drew University	N.J.	Perna, Louis Robert (III) A.B. 1950, The George Washington University	D.C.
McIntosh, George Isa (I) A.B. 1950, Gettysburg College	Pa.	Peterson, Charles Raymond (I) Phillips, Lawrence Vase (IV)	Ill. D.C.
McIntosh, Arthur Donald (IV) A.B. 1949, The George Washington University	N.C.	Pickering, Wesslow Harold (IV) A.B. 1950, Ohio State University	Ohio
McIntosh, Kirk Oliver (IV) A.B. 1948, The George Washington University	Minn.	Pillow, David James (III) B.S. 1950, Texas Christian University	Tex.
McIntosh, Albert John (II) B.S. 1950, Georgetown University	D.C.	Pine, Donald Kay (IV) A.B. 1949, The George Washington University	Va.
McIntosh, Roger Randolph (III) B.S. 1949, University of Wisconsin	Wis.	Piver, Julius Samuel (IV) B.S. 1948, The George Washington University	D.C.
McIntosh, Collins (III) A.B. 1947, Agricultural and Mechanical College of Texas	Calif. D.C.	Plyter, Crawford Oliver, Jr. (III) B.S. 1948, High Point College	Md.
McIntosh, Myles (IV) B.S. 1948, The George Washington University	Va.		



Plymyer, Ray Earl (IV)  
B.S. 1948, Pennsylvania State College  
Poole, Robert Smallwood (III)  
A.B. 1950, The George Washington University  
Porter, Bennet Allen, Jr. (III)  
Potter, Stanley Eugene (IV)  
Pratt, Curtiss Robert (I)  
A.B. 1950, The George Washington University  
Price, Curtis Lee (III)

## R

Rapp, Raymond Edward, Jr. (IV)  
B.S. 1948, The George Washington University  
Rawlings, Joseph Edwin, Jr. (III)  
A.B. 1950, The George Washington University  
Reitman, Robert Stephen (I)  
E.S. 1951, The George Washington University  
Rhame, Richard Coleman (II)  
A.B. 1950, Princeton University  
Richardson, James Augustine (I)  
River, Robert Peter (I)  
B.S. 1951, Villanova College  
Robinson, Guy Harold, Jr. (I)  
Robinson, Tom Warren (II)  
A.B. 1949, Occidental College  
Robtcher, Jonas B., Jr. (I)  
A.B. 1942, Brown University  
J.D. 1948, The George Washington University  
Rogers, Samuel Lyle (II)  
A.B. 1950, Dartmouth College  
Rosen, Richard James (I)  
Rosenblum, David Joseph (III)  
B.S. 1949, The George Washington University  
Rosendahl, Stanley Bernard (III)  
B.S. 1948, University of Maryland  
Rosenthal, Melvin Stanley (IV)  
A.B. 1949, The George Washington University  
Rotermund, Maynard Burr (I)  
A.B. 1951, University of California  
Rowe, Frank Joseph (IV)

## S

Sager, John Harmer (IV)  
A.B. 1948, Princeton University  
Sager, Stanley Melvin (III)  
A.B. 1948, Duke University  
Sanders, Bertram Webb (III)  
A.B. 1949, Earlham College  
Sanders, Leslie Elwood (II)  
A.B. 1949, Franklin College of Indiana  
Sandmeyer, Melvin Wesley, Jr. (III)  
A.B. 1950, The George Washington University  
Sansum, Lavane Earl (IV)  
A.B. 1942, University of California  
Sathe, Andrew Gerhard (IV)  
B.S. 1950, University of North Dakota  
Saville, John William (III)  
A.B. 1950, The George Washington University  
Schocket, Charles Lewis (II)  
Schreiber, Samuel M. (I)  
B.S. 1950, The George Washington University

Pa. Schultz, Theodore Arthur (IV)  
B.S. 1948, Capital University  
D.C. Serkinger, Daniel Lamont (II)  
A.B. 1951, The George Washington University  
Md. Sent, Otto Ernest (II)  
W.Va. A.B. 1943, Wartburg College  
Ill. D.B. 1946, Wartburg College  
Shilling, Charles Utley (I)  
Shupeny, Frederick Herman, Jr. (IV)  
B.S. 1950, University of Nebraska  
Silverberg, Stanley Melvin (IV)  
B.S. 1948, The George Washington University  
Calif. Sinimons, David K. (II)  
D.C. A.B. 1950, Brigham Young University  
Simpson, Charles Frederick (III)  
D.C. B.S. 1949, Wake Forest College  
Singer, Lawrence Robert (II)  
B.S. 1950, The George Washington University  
N.J. Slack, Richard Lee (II)  
B.S. 1950, West Virginia Wesleyan College  
N.Y. Smith, Casper Hayden (III)  
D.C. Solomonson, Carl Edward (III)  
N.J. B.S. 1950, Western Reserve University  
Speevack, Harold Lynn (III)  
Md. B.S. 1949, Ohio University  
Calif. Sprowell, Robert Ray (IV)  
D.C. A.B. 1948, University of Denver  
Stachowak, Edward Joseph (II)  
B.S. 1951, University of Pittsburgh  
Stace, Arson Hutchinson (IV)  
A.B. 1948, Georgetown College  
N.Y. Stahl, Robert William (IV)  
N.Y. Stallings, James Henry, Jr. (IV)  
A.B. 1948, Duke University  
Stamey, Harry Clay (IV)  
A.B. 1948, The George Washington University  
Md. Stanfield, James Arthur (III)  
B.S. 1949, State College of Washington  
D.C. Stewart, Alan Hugh (IV)  
Stewart, Tomas Harrell (III)  
B.S. 1949, Alabama Polytechnic Institute  
D.C. Stine, Oscar Cebren (II)  
N.J. A.B. 1950, Oberlin College  
Stokes, James Arthur (IV)  
Stone, Rodney Alan (II)  
B.S. 1950, Tulsa University  
Storck, James Russell (II)  
Strosser, Noel Fane (III)  
Strosski, Gerald Edward (III)  
B.S. 1950, Wayne University  
Stump, Charles Albert (IV)  
A.B. 1948, University of Pennsylvania  
Sutton, Harold Griffith, Jr. (I)  
A.B. 1951, Amherst College  
D.C. Sweet, Edward Chiles (II)  
A.B. 1951, The George Washington University  
Calif. Sweet, Carlton Edward (II)  
A.B. 1950, Bowdoin College

## T

Tart, Nelson Monroe (I)  
B.S. 1949, Wake Forest College  
Taylor, Herbert Bradley (II)  
B.S. 1950, The George Washington University



[illegible]

# SUMMARIES OF REGISTRATION

1951-52

## NUMBER OF REGISTRANTS

Class entering September 1951.....	60
Class entering September 1950.....	58
Class entering September 1949.....	95
Class entering September 1948.....	55

## GEOGRAPHICAL DISTRIBUTION OF STUDENTS

Alabama .....	6	New Mexico .....	1
Arizona .....	2	New York .....	14
California .....	24	North Carolina .....	2
Colorado .....	1	North Dakota .....	13
Connecticut .....	2	Ohio .....	5
Delaware .....	1	Oklahoma .....	17
District of Columbia .....	81	Pennsylvania .....	1
Florida .....	9	Rhode Island .....	3
Georgia .....	2	South Dakota .....	1
Idaho .....	5	Tennessee .....	8
Illinois .....	5	Texas .....	6
Indiana .....	2	Utah .....	1
Kansas .....	1	Virginia .....	5
Kentucky .....	1	Washington .....	10
Maine .....	3	West Virginia .....	3
Maryland .....	41	Wisconsin .....	1
Michigan .....	7	Wyoming .....	1
Minnesota .....	4	Hawaii .....	1
Mississippi .....	2	Puerto Rico .....	1
Missouri .....	1	British Guiana .....	1
Montana .....	1	China .....	53
Nebraska .....	22	Total.....	531
New Jersey .....	22		

## GRADUATES OF COLLEGES REGISTERED IN THE SCHOOL OF MEDICINE

Akron, University of .....	1	Capital University .....	1
Alabama Polytechnic Institute .....	1	Carleton College .....	1
Alabama, University of .....	4	Catholic University of America .....	1
Albion College .....	1	Cincinnati, University of .....	1
American University .....	3	Citadel .....	1
Amherst College .....	2	Columbia University .....	1
Augustana College .....	1	Dartmouth College .....	1
Birmingham-Southern University .....	1	Dayton, University of .....	1
Bowdoin College .....	1	Denver, University of .....	1
Brigham Young University .....	2	Drew University .....	1
Brooklyn College .....	1	Duke University .....	1
Brown University .....	2	Earlham College .....	1
California, University of .....	8	East Carolina Teachers College .....	1
California, University of, at Los Angeles .....	3	Eastern Mennonite College .....	1
		Franklin College of Indiana .....	1

Franklin and Marshall College . . .	1	Pennsylvania, University of . . . . .	2
Geneva College . . . . .	1	Pittsburgh, University of . . . . .	3
George Washington University . . .	87	Princeton University . . . . .	2
Georgia, University of . . . . .	3	Queens College . . . . .	1
Gettysburg College . . . . .	1	Rensselaer Polytechnic Institute . .	1
Grove City College . . . . .	2	Rochester, University of . . . . .	1
Hamilton College . . . . .	1	Rutgers University . . . . .	3
Harvard University . . . . .	1	St. Vincent College . . . . .	1
Haverford College . . . . .	6	San Diego State College . . . . .	2
Hawaii, University of . . . . .	3	Scranton, University of . . . . .	1
High Point College . . . . .	1	South Dakota, University of . . . .	2
Hiram College . . . . .	1	Southern California, University of	1
Holy Cross, College of the . . . . .	1	Stanford University . . . . .	2
Howard College . . . . .	1	Sweet Briar College . . . . .	1
Howard University . . . . .	1	Syracuse University . . . . .	3
Hunter College . . . . .	1	Texas, Agricultural and Mechan-	
Idaho, College of . . . . .	1	ical College of . . . . .	1
Idaho, University of . . . . .	1	Texas Christian University . . . . .	1
Iowa, State University of . . . . .	1	Tulsa, University of . . . . .	2
Johns Hopkins University . . . . .	1	Tusculum College . . . . .	1
Kansas State College of Agricul-	2	Union College . . . . .	1
ture and Applied Sciences . . . . .		Utah State Agricultural College . .	1
Lafayette College . . . . .	1	Villanova College . . . . .	3
Maryland, University of . . . . .	3	Virginia Military Institute . . . . .	1
Michigan State College . . . . .	4	Wake Forest College . . . . .	3
Michigan, University of . . . . .	1	Warburg College . . . . .	1
Minnesota, University of . . . . .	2	Warburg Theological Seminary . .	1
Montana State University . . . . .	1	Washington and Lee University . .	1
Mount Holyoke College . . . . .	2	Washington, State College of . . . .	2
Mulkenberg College . . . . .	1	Washington, University of . . . . .	2
Nebraska, University of . . . . .	2	Wayne University . . . . .	2
Nevada, University of . . . . .	1	West Virginia Wesleyan College . .	1
New York University . . . . .	1	Western Maryland College . . . . .	1
North Carolina, University of . . .	1	Western Reserve University . . . . .	5
North Dakota, University of . . . .	2	Whitier College . . . . .	1
Occidental College . . . . .	1	Whitworth College . . . . .	1
Ohio State University . . . . .	2	Wisconsin, University of . . . . .	9
Ohio University . . . . .	1	Yale University . . . . .	3
Oklahoma, University of . . . . .	1		
Pennsylvania State College . . . . .	3		

Number of College Graduates 288  
 Number of Colleges Repre-  
 sented . . . . . 109



## INDEX

**A**  
Administration, Officers of, 2  
Administrative assistants, 28  
Admission, 15-16  
    Application for, 16  
    Premedical-college, requirements for, 35  
Advanced standing, 15  
Anatomy, courses in, 45  
Anesthesiology, courses in, 46  
Arts and Medicine, combined curriculum, 41-42  
Assistants in Instruction, 25-27  
Attendance, 37  
Awards, 39  
**B**  
Bachelor of Arts, degree of, 41  
Bacteriology, courses in, 47-49  
Biochemistry, courses in, 50-51  
**C**  
Calendar of the School, 1952-53, vi  
Classes, 13-15  
Colleges from which students hold degrees, 88-89  
Committees of the Faculty, 10-31  
Courses of instruction, 44-70  
    Numbers and symbols used in connection with, 44  
**D**  
Degrees conferred in 1951, 80-81  
Departments of instruction, 13, 44-79  
Dermatology, courses in, 52  
Doctor of Medicine, degree of, 41-42  
**E**  
Emeritus Professors, 3  
Equipment and Facilities, 32-33  
Examinations, 38  
**F**  
Faculty, 29-30  
Fees, 16-17  
    Payment of, 16-37  
Financial Regulations, 36-37  
**G**  
Geographical distribution of students, 88  
Grades, 37  
Gynecology, courses in, 60-62  
**H**  
Health Administration, 38-39  
History of the School, 31  
Honor Societies, 40  
Houses, 42  
Hospital appointments, 13-15  
Hygiene, courses in, 47, 48, 49  
**I**  
Internship, 39  
Intern training, 41

**L**  
Laboratories, 33  
Library, 34  
Living accommodations, 40-41  
Loan funds, 37  
**M**  
Medical School Building, 32-33  
Medical Technologist Course, 42-43  
Medical Unit, Reserve Officers' Training Corps, U. S. Army, 40  
Medicine, courses in, 44-47  
Military Science and Tactics, courses in, 48  
**N**  
Neurology, courses in, 50  
Neurological Surgery, courses in, 59  
**O**  
Obstetrics, courses in, 60-62  
Ophthalmology, courses in, 63  
Otolaryngology, courses in, 64  
**P**  
Pathology, courses in, 65  
Pediatrics, courses in, 66-67  
Pharmacology, courses in, 68-69  
Physical examinations, 10  
Physical Medicine, courses in, 70  
Physiology, courses in, 71-72  
Plan of instruction, 12  
Postgraduate instruction, 42  
Preventive Medicine, courses in, 48, 49  
Prizes, 10  
Psychiatry, courses in, 73-74  
**R**  
Radiology, courses in, 75  
Registration, 16  
    Summaries of, 88-89  
Regulations, 37-48  
Rehabilitation, courses in, 70  
Research, assistants in, 25-27  
Research building, 11  
Resident training, 42  
**S**  
Scholarships, 19  
Staff of Instruction, 1-27  
Standing of the School, 11  
Student equipment, 82-83  
Students registered, 82-83  
Surgery, courses in, 76-78  
Syphilology, courses in, 52  
**T**  
Technical assistants, 27  
Textbooks, cost of, 17  
Times, Board of, 1  
**U**  
Urology, courses in, 79

THE LAW SCHOOL  
1952-53





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WASHINGTON, D. C.

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BY THE UNIVERSITY



## CONTENTS

	PAGE
CALENDAR OF THE LAW SCHOOL.....	vi
THE UNIVERSITY .....	1
The Board of Trustees.....	3
Officers of Administration.....	4
History and Organization, Academic Status, Location.....	5
THE LAW SCHOOL.....	7
The Faculty and Staff of Instruction.....	9
General Information .....	13
Admission .....	16
Registration .....	18
Fees and Financial Regulations.....	18
Scholarships, Prizes, Loan Funds.....	20
Regulations .....	21
Student Life .....	25
The Degrees of Bachelor of Laws and Juris Doctor.....	27
Graduate Program .....	29
COURSES OF INSTRUCTION.....	33
DEGREES CONFERRED, MAY 1951, NOVEMBER 1951, FEBRUARY 1952.....	43
STUDENTS REGISTERED, 1951-52.....	50
SUMMARIES OF REGISTRATION, 1951-52.....	77
INDEX .....	82



# CALENDAR

1952-53

Date	Day	Occasion
1952		
<b>FALL TERM:</b>		
Sept. 24-26.....	Wednesday through Friday .....	Registration Fall term begins Fall Convocation. Holiday
Sept. 29.....	Monday .....	
Nov. 11.....	Tuesday .....	
Nov. 27-29.....	Thursday through Saturday .....	Thanksgiving recess
Dec. 22-Jan. 3....	Monday through Saturday .....	Christmas recess
1953		
Jan. 5.....	Monday .....	Classes resume
Jan. 9.....	Friday .....	Last day for receiving disserta- tions of candidates for the de- gree of Doctor of Juris Science to be conferred the following May
Jan. 17-27.....	Saturday through Tuesday .....	Fall term examination period
<b>SPRING TERM:</b>		
Jan. 29 and 30...	Thursday and Friday .....	Registration
Feb. 2.....	Monday .....	Spring term begins
Feb. 23.....	Monday .....	Winter Convocation. Holiday
April 3 and 4....	Friday and Saturday .....	Easter recess
May 13-23.....	Wednesday through Saturday .....	Spring term examination period
May 24.....	Sunday .....	Baccalaureate Sermon
May 27.....	Wednesday .....	Commencement
<b>SUMMER TERM: *</b>		

\* Dates to be announced

THE UNIVERSITY





## THE BOARD OF TRUSTEES

The Board of Trustees of the University is composed of the President of the University ex officio and the following persons by election:

Robert Vedder Fleming, LL.D., *Chairman*

Henry Parsons Erwin, A.B., *Secretary*

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Homer Cummings, Ph.B., LL.B., LL.D., L.H.D.

\*Watson Davis, B.S. in C.E., C.E.

\*Robert Joshua Evans, Jr., A.B., Ed.D.

Charles Elliott Freer, A.B., LL.M.

Ulysses S. Grant, 3d, B.S., Graduate United States Engineers School

Gilbert Grosvenor, A.M., LL.D., Litt.D.

\*Brooks Hays, A.B., LL.B., LL.D.

John Edgar Hoover, LL.M., LL.D.

Frank Atherton Howard, B.S. in M.E., LL.B.

Alfred Houghwout Jackson, LL.B., LL.D.

John Keown McKee

Benjamin Mosby McKelway

\*Miss Helen Newman, LL.M.

Walter Rupert Tuckerman, A.B., LL.B.

James Edwin Webb, A.B.

Alexander Wetmore, Ph.D., Sc.D.

\*Charles Stanley White, M.D., Sc.D.

Lloyd Bennett Wilson

\*Frank Lloyd Yates, A.B., LL.B.

\*Nominated by the alumni.

## OFFICERS OF ADMINISTRATION

### THE UNIVERSITY

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*  
Harold Griffith Sutton, M.S., *Director of Admissions*  
Fred Everett Nessell, A.B., *Registrar; Secretary of the Faculties*  
John Russell Mason, B.S. in L.S., A.M., *Librarian; Curator of Art*  
Myrna Pauline Sedgwick, A.B., *Administrative Secretary*  
Henry William Herzog, B.S., *Comptroller*  
Donald David Blanchard, B.C.E., *Business Manager*  
Claud Max Farrington, A.M., *Director of Activities for Men*  
Virginia Randolph Kirkbride, A.M., *Director of Activities for Women*  
Alan Thomas Deibert, A.M., *Adviser to Students from Foreign Countries*  
Burnice Herman Jarman, A.M., Ed.D., *Director of the Summer Sessions*  
Daniel LeRay Borden, A.M., M.D., *Director of Health Administration*  
John Rust Busick, A.B., *Director of Public Relations*  
Don Carlos Faith, A.M., *Director of Veterans Education*  
Benjamin Douglass Van Evera, Ph.D., *Coordinator of Scientific Activities*

### THE LAW SCHOOL

Oswald Symister Colclough, B.S., LL.B., LL.D., *Dean of the Law School*  
Carville Dickinson Benson, A.B., LL.B., S.J.D., *Assistant Dean of the Law School*  
Louis Harkey Mayo, B.S., LL.B., *Secretary of the Law School*  
Anna Marie Bischoff, A.B., *Recording Secretary in the Law School*  
Ella Cooper Thomas, LL.B., *Assistant Librarian in Charge of the Law Library*  
Mona Estelle Keating, *Secretary to the Dean of the Law School*  
Carolyn Floy Littlepage, *Secretary in the Law School*

## THE UNIVERSITY

### HISTORY AND ORGANIZATION

The idea of a university in the Capital of the Nation was sponsored by George Washington, who during his public life urged the establishment of such an institution and who in his will left fifty shares of stock in the Potomac (Canal) Company for the endowment of a university to be established in the District of Columbia "to which the youth of fortune and talents from all parts thereof might be sent for the completion of their Education in all the branches of polite literature;—in arts and Sciences,—in acquiring knowledge in the principles of Politics & good Government".

The George Washington University operates under a charter granted by an act of Congress of February 9, 1821, to Columbian College in the District of Columbia. In 1873 the name was changed to "Columbian University" and in 1904 to "The George Washington University".

The University as it is now organized consists of the Junior College, comprising the work of the freshman and sophomore years; Columbian College, the senior college of liberal arts, which offers work leading to the Bachelor's and Master's degrees; the Graduate Council, which offers work leading to the degree of Doctor of Philosophy; the professional schools, which include Medicine, Law, Engineering, Pharmacy, Education, and Government; the College of General Studies; the Division of University Students; the Division of Special Students; the Division of Air Science; and the Summer Sessions.

### ACADEMIC STATUS

The George Washington University is on the final approved list of the Association of American Universities. This fact not only assures to students the academic standards of this Association, but also is important to those who desire to transfer credits from one institution to another.

The University is also accredited by its regional accrediting agency, the Middle States Association of Colleges and Secondary Schools, and is on the approved list of the American Association of University Women. The University is a member of the College Entrance Examination Board.

The Law School is a charter member of the Association of American Law Schools and is approved by the Section of Legal



Education and Admissions to the Bar of the American Bar Association.

#### LOCATION

The George Washington University is in downtown Washington, four blocks west of the White House and east of the Potomac River with its extensive parkway. Within a few blocks are the buildings housing the offices of many of the departments of the Government, including the Department of State, the Department of the Treasury, the Department of Justice, the Department of the Interior, the Department of Agriculture, the Department of Commerce, and the Department of Labor. Also readily accessible are the Capitol, the Library of Congress, the National Archives, the Supreme Court, and other federal courts.

THE LAW SCHOOL





## THE LAW SCHOOL

### THE FACULTY AND STAFF OF INSTRUCTION \*

- CLOYD HECK MARVIN, Ph.D., LL.D., *President of the University*  
 OSWALD SYMISTER COLCLOUGH, B.S., LL.B., LL.D., *Dean of the Law School*  
 CARVILLE DICKINSON BENSON, A.B., LL.B., S.J.D., *Assistant Dean of the Law School*  
 LOUIS HARKEY MAYO, B.S., LL.B., *Secretary of the Law School*

### EMERITUS FACULTY

- GILBERT LEWIS HALL  
*Professor Emeritus of Law*  
 A.B. 1899, Swarthmore College; LL.B. 1918, The George Washington University  
 JOHN WILMER LATIMER  
*Professor Emeritus of Law*  
 LL.B. 1897, The George Washington University  
 WALTER LEWIS MOLL  
*Professor Emeritus of Law*  
 A.B. 1894, Concordia College (Ind.); Graduate 1899, Concordia Theological Seminary (St. Louis); LL.B. 1923, Indiana University; S.J.D. 1924, Harvard University  
 HECTOR GALLOWAY SPAULDING  
*Professor Emeritus of Law*  
 B.S. 1900, University of Minnesota; LL.B. 1903, S.J.D. 1924, Harvard University  
 WINDELL PHILLIPS STAFFORD  
*Professor Emeritus of Law*  
 LL.B. 1888, Boston University; A.M. 1901, Dartmouth College; LL.D. 1904, Litt.D. 1925, University of Vermont; LL.D. 1906, Georgetown University; Litt.D. 1910, Middlebury College; Litt.D. 1916, The George Washington University  
 WILLIAM CABELL VAN VLECK  
*Professor Emeritus of Law in Residence*  
 A.B. 1904, LL.B. 1911, LL.D. 1948, The George Washington University; S.J.D. 1921, Harvard University

### ACTIVE FACULTY

- JENNINGS BAILEY, JR.  
*Professorial Lecturer in Law*  
 A.B. 1926, Princeton University; LL.B. 1930, The George Washington University  
 CARVILLE DICKINSON BENSON  
*Professor of Law; Assistant Dean of the Law School*  
 A.B. 1920, Johns Hopkins University; LL.B. 1923, S.J.D. 1926, Harvard University  
 \*The President of the University, the Dean and the Assistant Dean of the School, the Professors of the University, the Directors of Academics of the University, Professors, Adjunct Professors, Associate Professors, and Assistant Professors constitute the Faculty

**JOHN PATRICK BURKE***Associate Professor of Law*

A.B. 1940, LL.B. 1941, The George Washington University.

**OSWALD SYMISTER COLCLOUGH***Professor of Law; Dean of the Law School*

B.S. 1920, United States Naval Academy; LL.B. 1935, The George Washington University; LL.D. 1946, Muhlenberg College.

**CHARLES SAGER COLLIER***Professor of Law*

A.B. 1911, LL.B. 1915, S.J.D. 1932, Harvard University.

**ROBERT MCKINNEY COOPER***Associate Professor of Law*

A.B. 1920, West Virginia University; Ph.D. 1931, University of Wisconsin; J.D. 1934, University of Michigan.

**GEORGE BOWDOIN CRAIGHILL***Adjunct Professor of Law*

A.B. 1903, University of the South; LL.B. 1906, Georgetown University.

**ROGER ALLEN CUNNINGHAM***Assistant Professor of Law*

B.S. 1922, LL.B. 1928, Harvard University.

**JOSEPH DACH***Lecturer in Law*

LL.D. 1929, University of Budapest; LL.B. 1945, The George Washington University.

**JAMES FORRESTER DAVISON***Professor of Law; Editor-in-Chief of the Law Review*

A.B. 1921, LL.B. 1923, Dalhousie University; LL.M. 1924, S.J.D. 1929, Harvard University.

**JUSTIN LINCOLN EDGERTON***Professorial Lecturer in Law*

A.B. 1929, LL.B. 1931, The George Washington University.

**WILLIAM LEIGH ELLIS***Professorial Lecturer in Law*

A.B. 1920, Hillsdale College; LL.B. 1933, LL.M. 1936, The George Washington University.

**JOHN THEODORE FEY***Associate Professor of Law*

LL.B. 1940, University of Maryland; M.B.A. 1942, Harvard University.

**WILLIAM THOMAS FRYER***Professor of Law*

A.B. 1922, LL.B. 1924, The George Washington University; J.D. 1923, Yale University.

**WILLIAM LESTER GRIFFIN***Lecturer in Law*

A.B. 1941, Western Michigan College; LL.B. 1948, LL.M. 1949, University of Michigan.

**CONDER CAYWOOD HENRY***Adjunct Professor of Law*

A.B. 1915, LL.B. 1920, The George Washington University.

**PHILIP FIELD HERRICK***Professorial Lecturer in Law*

A.B. 1929, Williams College; LL.B. 1933, LL.M. 1936, The George Washington University.

**JOHN WINGFIELD JACKSON**  
Adjunct Professor of Law

B.S. 1928, University of Pennsylvania; LL.B. 1932, The George Washington University.

**JOHN ALEXANDER KENDRICK**  
Clerk of the Trial Practice Court

A.B. 1942, LL.B. 1941, The George Washington University.

**JAMES ROBERT KIRKLAND**  
Adjunct Professor of Law

A.B. 1927, LL.B. 1928, LL.M. 1930, The George Washington University; Judge, United States District Court for the District of Columbia.

**BOLITHA JAMES LAWS**  
Adjunct Professor of Law

LL.B. 1913, LL.M. 1914, LL.D. 1950, Georgetown University; Chief Judge, United States District Court for the District of Columbia.

**ELLIOTT DEJARNETTE MARSHALL**  
Adjunct Professor of Law

LL.B. 1930, The George Washington University; Judge, Seventeenth Judicial Circuit of Virginia.

**LOUIS HARKEY MAYO**  
Assistant Professor of Law; Secretary of the Law School

B.S. 1940, United States Naval Academy; LL.B. 1940, University of Virginia.

**JOHN ALBERT MCINTIRE**  
Professorial Lecturer in Law

A.B. 1928, Wittenberg College; LL.B. 1941, University of Cincinnati.

**LEROY SORENSON MERRIFIELD**  
Associate Professor of Law

A.B. 1938, LL.B. 1941, University of Minnesota; M.P.A. 1942, Harvard University.

**ARTHUR SELWYN MILLER**  
Assistant Professor of Law

A.B. 1938, Willamette University; LL.B. 1940, Stanford University.

**GEORGE EDWARD MONK**  
Professorial Lecturer in Law

A.B. 1928, LL.B. 1930, LL.M. 1934, The George Washington University.

**JAMES WARD MORRIS**  
Adjunct Professor of Law

A.B. 1912, University of North Carolina; Judge, United States District Court for the District of Columbia.

**JAMES OLIVER MURDOCK**  
Professor of Law

Ph.D. 1916, University of Chicago; LL.B. 1924, Harvard University.

**FRANK HAMMETT MYERS**  
Adjunct Professor of Law

LL.B. 1923, LL.M. 1924, The George Washington University; Judge, Municipal Court of the District of Columbia.

**ALVIN LEROY NEWMYER**  
Adjunct Professor of Law

LL.B. 1946, The George Washington University.

On national service leave.



**SAUL CHESTERFIELD OPPENHEIM***Professor of Law*

A.B. 1918, A.M. 1920, Columbia University; J.D. 1926, S.J.D. 1929, University of Michigan.

**HERMAN ISRAEL ORENTLICHER***Associate Professor of Law*

A.B. 1933, LL.B. 1936, Harvard University.

**CHARLES SYLVANUS RHYNE***Professorial Lecturer in Law*

LL.B. 1917, The George Washington University

**ROBERT NELSON ROBILLARD***Lecturer in Law*

B.S. 1924, United States Naval Academy; LL.B. 1930, St. John's University School of Law.

**DUDLEY GRAHAM SKINKER***Associate Clerk of the Trial Practice Court*

LL.B. 1940, The George Washington University

**RAYMOND STEVENS SMETHURST***Professorial Lecturer in Law*

B.S. 1930, Harvard University; LL.B. 1934, The George Washington University.

**NORMAN ALFRED SUGARMAN***Professorial Lecturer in Law*

A.B. 1938, LL.B. 1940, Western Reserve University.

**DAVID BENSON WEAVER***Assistant Professor of Law*

A.B. 1943, Ohio Wesleyan University; LL.B. 1948, Western Reserve University.

**GLEN EARL WESTON***Assistant Professor of Law*

B.S. 1943, University of Maryland; LL.B. 1948, The George Washington University

**FREDERICK BERNAYS WIENER***Professorial Lecturer in Law*

Ph.B. 1927, Brown University; LL.B. 1930, Harvard University.

**COMMITTEES\*****THE DEAN'S COUNCIL**

Carville Dickinson Benson

Charles Sager Collier

James Forrester Davison

Saul Chesterfield Oppenheim

William Thomas Fryer  
Leroy Sorenson Merrifield  
James Oliver Murdock**COMMITTEE ON ADMISSIONS**Carville Dickinson Benson, *Chairman*  
Louis Harkey MayoHarold Griffith, *Secretary*

\* The President of the University and the Dean, the Assistant Dean, and the Secretaries of the Law School are members ex officio of all committees.

COMMITTEE ON GRADUATE STUDIES

James Forrester Davison, *Chairman*  
Charles Sager Collier  
James Oliver Murdock  
Saul Chesterfield Oppenheim

COMMITTEE ON SCHOLARSHIP

Herman Israel Orentlicher, *Chairman*  
Carville Dickinson Benson  
John Theodore Fey

COMMITTEE ON CURRICULUM

Saul Chesterfield Oppenheim, *Chairman*  
Herman Israel Orentlicher  
Roger Allen Cunningham

LIBRARY COMMITTEE

James Oliver Murdock, *Chairman*  
Robert McKinney Cooper  
David Benson Weaver

GENERAL INFORMATION

LOCATION IN THE NATION'S CAPITAL

The George Washington University Law School, now in its 87th year, is the oldest law school in the District of Columbia. The School took part as a charter member in 1900 in the organization of the Association of American Law Schools and it has been an active member of the Association since that time. It is approved by the Section of Legal Education and Admissions to the Bar of the American Bar Association. Of special significance is the location of the Law School in the Nation's Capital, the focal point of the law in action, both American and international. The work of the School goes on in this environment, presenting a unique opportunity for observation and study of federal agencies—judicial, legislative, and administrative. Readily accessible are the Supreme Court of the United States, the federal trial and appellate courts of the District of Columbia, and, in addition, federal courts of special jurisdiction, such as the United States Court of Claims, the United States Court of Customs and Patent Appeals, and the Tax Court of the United States. Current federal legislation can be studied as it is considered by Congressional committees and as it comes up for debate on the floor of the House of Representatives and the Senate. It is with respect to the federal administrative agencies that the students here in Washington have matchless opportunities for study and observation. They can attend informal and formal hearings of these agencies and can obtain from the docket sections complete records of administrative

adjudication in specific cases. Illustrative of such federal agencies are the Interstate Commerce Commission and the Civil Aeronautics Board in the field of transportation; the Federal Trade Commission in the field of trade regulation; the Securities and Exchange Commission in the field of security issues and corporate finance; the National Labor Relations Board in the field of labor-management relations; the United States Patent Office in the field of patent law; the Federal Power Commission in the field of water, natural gas, and electric power; and the Federal Communications Commission in the field of radio and television.

Supplementing these environmental advantages of law in action are the exceptional research library collections in the Library of Congress in the various departments of the Federal Government, and in the libraries of the headquarters of national and international organizations located in Washington. The notable library of the Carnegie Foundation for International Peace has been acquired by The George Washington University for use of research students in international and comparative law, fields with respect to which Washington has come to be called "The Capital of the World".

The years of residence at law school are years of participation in the life of the community, which, in the case of the George Washington University Law School, is the government of the United States by law. As a consequence, the study of law takes on added meaning, whether the goal be government service or practice, general or specialized.

### PROGRAMS OF STUDY

Traditionally the Law School has been national in the geographic distribution of its students. At the present time, men and women holding baccalaureate degrees from more than three hundred colleges and universities come from the forty-eight states, the territories, and several foreign countries to comprise the student body. As a consequence, programs of study leading to the degree of Bachelor of Laws and the Doctor have been planned to provide instruction and training for practice of law wherever the Anglo-American legal system obtains.

Graduate work leading to the degrees of Master of Laws and Doctor of Juridical Science is offered for those desiring further study and research in specialized fields of law.

Continuing legal education for members of the bar who desire to take advanced courses without being candidates for degrees is provided. Lawyers may take courses and seminars for this purpose as unclassified students.

Graduate work is offered also to meet the needs of lawyers who come from countries whose legal systems are not based on the English system. There are two courses of study, one leading to the degree of Master of Laws and the other to the degree of Doctor of Juridical Science.



Comparative Law for lawyers planning to return to their own countries, and the other leading to the degree of Master of Comparative Law (American Practice) for lawyers planning to remain in this country for the practice of law.

#### FALL, SPRING, AND SUMMER TERMS

The academic year consists of the fall and spring terms. Six terms of residence are required of candidates for the Bachelor of Laws degree in the morning division, eight for those in the evening division. Residence in the summer term, morning or evening, is counted on a proportional basis the same as like residence during the fall or spring term. Students may enter Law School at the beginning of any of the three terms.

#### MORNING AND EVENING DIVISIONS

The School maintains morning and evening divisions. The evening division, operating under the same standards as the morning division, provides an opportunity for employed students to obtain a legal education in keeping with American democratic ideals.

#### HOURS OF INSTRUCTION

Morning sections: Monday through Friday, 9:10 A.M. to 1:00 P.M.  
Trial Practice Court: Saturday, 9:30 to 11:30 A.M.  
Evening sections: Monday through Friday, 5:50 to 7:40 P.M.

#### THE LIBRARY

The Law School Library of 29,000 volumes contains the official reports of the decisions of the courts of last resort of all the states prior to the National Reporter System and of fourteen states complete to date; the National Reporter System, complete; the reports of the United States Supreme Court and lower federal courts, and the reports of federal administrative agencies; Shepard's Citations for the units of the Reporter System; the English Reprint and English Law Reports; the United States statutes; reasonably complete sets of statutes of all of the states; the English statutes; the principal English and American digests and encyclopedias; collections of special reports and annotated cases; and the leading textbooks and legal periodicals.

The Library is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday, 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday. Books and other materials do not circulate and must be used in the library.

### THE LAW REVIEW

*The George Washington Law Review*, published by the University, is edited and managed by students of the Law School under the supervision of Faculty advisers. It is devoted exclusively to state and federal public law. The location of the University in the National Capital, where the primary sources of federal public law may be observed in operation, affords an unexcelled opportunity for specialization in this field.

The *Review* organization includes a faculty editor-in-chief, an associate faculty editor, a faculty board of advisory editors, a board of departmental advisory editors, and a board of student editors. The student editors are chosen each year on the basis of scholarship.

### THE STUDENT BAR ASSOCIATION

Every student in the Law School is a member of the Student Bar Association. This is organized to enable students to become better acquainted with problems of the profession, to foster professional ideals, and to bring about closer contact with members of the profession engaged in active practice of the law.

The work of the Student Bar Association is carried on by various committees and by group and general meetings of a professional and social nature. From time to time lectures are given by outstanding authorities on legal and professional problems.

The Placement Committee of the Student Bar Association works in close cooperation with the Secretary of the Law School and the University Placement Office in assisting students to find employment.

### ORDER OF THE COIF

The Order of the Coif, a national honor society with chapters in thirty-nine law schools, aims "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship." The George Washington University Chapter was established in 1926. Members are elected each year from the highest-ranking ten per cent of the graduating class of the Law School.

### ADMISSION

#### APPLICATION FOR ADMISSION

An applicant for admission must obtain from the Office of the Director of Admissions of the University an application blank which he must fill out completely and return with the application fee of \$3.00.

Two recent photographs with the applicant's signature must accompany the blank.

To insure prompt action, application should be filed not later than August 1 for the fall term, January 1 for the spring term, and May 1 for the summer term.

Requirements concerning records of higher institutions previously attended are set forth on the sheet attached to the application blank. Attendance at classes is limited to students registered for credit. "Auditing" classes is not permitted.

### REQUIREMENTS FOR ADMISSION

For the Degrees of Bachelor of Laws and Juris Doctor

**Bachelor of Laws.**—A Bachelor's degree awarded upon completion of a four-year course in an approved college or university is required. All pre-legal work must be of a satisfactory quality and distribution. No student will be admitted who has been in attendance at another law school and who is ineligible to return to that school in good standing. From the applicants, a selection will be made by the Committee on Admissions.

**Juris Doctor.**—A student does not register as a candidate for this degree until his last year in the Law School. For details, see page 27.

### ADVANCED STANDING

Advanced standing toward the degree of Bachelor of Laws may be granted only for work successfully completed in other law schools which are members of the Association of American Law Schools.

Advanced standing may not be granted for law work already counted toward the Bachelor of Arts or other pre-legal degree.

Advanced standing toward the degree of Juris Doctor will not be granted.

### For the Graduate Degrees

Candidates for graduate degrees must be accepted by the Committee on Graduate Studies.

**Master of Laws.\***—A Bachelor of Arts or equivalent degree from an approved college or university and a Bachelor of Laws or equivalent degree from a member school of the Association of American Law Schools are required. Candidates for admission must have attained an average grade on all work done for the Bachelor of Laws degree equivalent to the relative position of a B average in the standards of grading at this Law School, except that, in the discretion of the Committee on

\*Except the work necessary for graduation from an approved college or university may be credited in satisfying the admission requirement for pre-legal work, provided the applicant has not more than twenty months of continuous service in the armed forces of the United States during World War II and prior to the beginning of the 1948-49 fall term.



Graduate Studies, applicants otherwise eligible may be admitted on proof of experience and attainment as an alternative.

*Master of Comparative Law and Master of Comparative Law (American Practice).*—The following are required: (1) the successful completion of and graduation from a course in arts, philosophy, letters, or sciences, equivalent to graduation from a gymnasium, lycee, or liceo (junior college); and (2) graduation in law from a recognized foreign university where training was in Civil Law.

*Doctor of Juridical Science.*—The following are required: (1) the degree of Juris Doctor from this Law School; or (2) the degree of Bachelor of Arts from an approved college, the degree of Bachelor of Laws or the equivalent, earned with high rank, from a member school of the Association of American Law Schools, and outstanding capacity for scholarly work in the field of law.

#### Unclassified Students

The following applicants may, at the discretion of the Dean, be admitted as unclassified students:

1. Those who, though eligible, do not desire to be degree candidates.
2. Those who are in good standing as degree candidates in other law schools which are members of the Association of American Law Schools.
3. Those who are not eligible for admission as candidates for degree but are members of the bar.

Unclassified students are required to participate in the work of the course and take examinations. Courses taken by unclassified students will not be credited toward degrees at this Law School.

#### REGISTRATION

Before attending classes each student must present himself in person for registration. No student will be registered in the Law School until proper credentials have been filed and approved (see "Admission", above).

Registration is for the term or session only.

A late-registration fee of \$5 will be charged each student who is permitted to register after the regular registration days.

Registration may be changed only with the permission of the Dean.

#### FEES AND FINANCIAL REGULATIONS

Application fee, charged each applicant for admission, non-refundable.....	\$2.00
Tuition fee, for each credit hour for which the student registers.....	15.00
For the degree of Doctor of Juridical Science.....	400.00
For work leading to and including the final examinations.....	2.00
Student Bar Association fee, charged each student in the Law School for each term or any part thereof except the summer term.....	20.00
Graduation fee.....	

Fee for printing and filing summary of doctoral dissertation.....	75.00
Fee for special examinations, for each subject.....	5.00
Late-registration fee, charged each student who fails to register within the designated period .....	5.00
Residence fee, charged each candidate for the degree of Doctor of Juridical Science wishing to maintain "in residence" status during any term after completion of tuition requirements.....	15.00
Service fee, charged each student for late payment of tuition, see "Payment of Fees" .....	1.00
Reinstatement fee, charged each student who is reinstated after being suspended for delinquency in fees.....	5.00

Registration in the University entitles each student to the following University privileges: (1) the issuance of one certified transcript of record, if and when desired; (2) the services of the Placement Office; (3) the use of University library facilities, except as otherwise designated; (4) gymnasium privileges; (5) admission to all athletic contests, unless otherwise specified; (6) subscription to the *University Hatchet*, the student newspaper; (7) admission to University debates; (8) medical attention and hospital services as described under "Health Administrations", page 26. These privileges, however, with the exception of the issuance of transcripts, terminate, and a student is no longer in residence, when he withdraws or is dismissed from the University.

#### PAYMENT OF FEES

All fees are payable at the Office of the Cashier, 725 Twenty-first Street NW. No student is permitted to complete registration or to attend classes until all fees are paid. Fees for each term are due and payable in advance at the time of registration.

Subject to the approval of the Comptroller, a student may sign a contract for term charges, except for fees payable in advance, permitting payments as follows:

*Fall Term.*—One third at the time of registration; one third on November 3; one third on December 3.

*Spring Term.*—One third at the time of registration; one third on March 3; one third on April 3.

A student who fails to meet payments when due but who pays his fees on or before the fifteenth of the month in which payment is due is charged a service fee of \$1. A student who fails to meet payments by the fifteenth of the month in which payment is due will be automatically suspended and may not attend classes until he has been officially reinstated and has paid all accrued fees and a reinstatement fee of \$5.

A student suspended for failure to meet payments when due may not be reinstated for the term after two weeks from the date of suspension. Applications for reinstatement are to be made to the Office of the Cashier.

**WITHDRAWALS AND REFUNDS**

Application for withdrawal from the University or for change in class schedule must be made in person or in writing to the Dean. Notification to an instructor is not an acceptable notice.

In authorized withdrawals and changes in schedules, financial adjustments will be made as follows:

*Fall Term.*—Withdrawal dated on or before October 31, cancellation of two-thirds of tuition charges; withdrawal dated on or before November 30, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to November 30.

*Spring Term.*—Withdrawal dated on or before February 28, cancellation of two-thirds of tuition charges; withdrawal dated on or before March 31, cancellation of one third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to March 31.

In no case will a refund be made of the first third of the total tuition charges unless the registration is in advance and the course is dropped before the regular registration day. In this case a withdrawal fee of \$5 is charged and tuition fees refunded. In no case will tuition be reduced or refunded because of nonattendance upon classes.

Payment applies only to the term for which a registration charge is incurred and in no case will this payment be credited to another term.

Authorization to withdraw and certification for work done will not be given a student who has not a clear financial record.

Withdrawal from a course or from the University between October 31 and the end of the fall term and between February 29 and the end of the spring term is permitted only in exceptional cases.

The grade of *F* (to be counted as zero) will be given in a course dropped without the approval of the Dean.

All charges for courses dropped without the approval of the Dean must be met by the student. Reporting the dropping of a course to an instructor does not effect its discontinuance.

**SCHOLARSHIPS, PRIZES, LOAN FUNDS**

*Charles Worthington Dorsey Memorial Scholarship.*—This scholarship, established in 1947 as a memorial to Charles Worthington Dorsey, Bachelor of Laws, '81, Master of Laws, '82, is awarded upon the recommendation of the Faculty of the Law School to a needy and promising graduate of Columbian College or other division of the University, with a Bachelor of Arts or other equivalent degree, who has maintained an average of *B* as an undergraduate student and who desires to pursue the



study of law as a full-time student. The scholarship covers tuition for the course leading to the first degree from the Law School, Bachelor of Laws or Juris Doctor, provided that the holder maintains an average of *B*. The right is reserved to suspend the benefits of the scholarship for cause at any time. The scholarship is awarded ordinarily once every three years.

*Law School Scholarships.*—Seven scholarships are available each year in the Law School to graduates of accredited colleges. Each scholarship provides full three-years' tuition in the morning division of the Law School. Candidates must have graduated in the upper fifth of their class and must have demonstrated qualities of leadership in addition to scholastic attainment. To retain the scholarship, the successful candidate must maintain a *B* average. Application must be made before March 15 to the Dean of the Law School.

*Ellsworth Prize.*—The Ellsworth Prize of \$25, established by the late Fritz von Briesen, is awarded to the student doing the best work in the subject of Patent Law Practice.

*John Bell Larner Prize.*—This prize, established by the bequest of John Bell Larner, consists of a medal which is awarded annually to that member of the graduating class in the Law School who attains the highest average grade in the entire course for the degrees of Bachelor of Laws or Juris Doctor.

*John Ordronaux Prizes.*—These prizes were established in 1909 by the bequest of John Ordronaux. The amount of \$75 is awarded annually to the student in the Law School who has attained the highest average grade in the first year, full-time course; and \$75 to the student who has attained the highest average grade in the second-year, full-time course.

Through the generosity of friends of the University a number of loan funds are available to students in the Law School. Among them is the Henry Strong-William A. Maury Loan Fund established by the Henry Strong Educational Foundation in memory of Henry Strong and William A. Maury. Application for loans should be made to the Comptroller of the University.

## REGULATIONS

*Students in the Law School are subject to, and are expected to familiarize themselves with, the general University regulations stated in the University Catalogue.*

## AMOUNT OF WORK

Students without substantial outside employment may take a program of studies of fourteen hours a week in which the majority of credit hours must be in the morning sections. Students with substantial outside em-

employment must take a limited program of studies not exceeding ten hours a week. Students taking a majority of their classes in the evening may not take more than ten credit hours a week.

#### ATTENDANCE

Regular attendance at classes is required and is necessary for successful work. A student who is deficient in class attendance in any subject may, by action of the Faculty, be barred from taking the examination in that subject.

#### RESIDENCE REQUIREMENTS

Attendance in the morning classes for the fall and spring terms is counted as residence for an academic year. Attendance in the evening classes for the fall and spring terms is counted as residence for three-fourths of an academic year. A morning student enrolled in a schedule of less than ten hours a week will receive residence credit in the ratio that the hours passed bear to ten. An evening student enrolled in a schedule of less than six hours a week will receive residence credit in the ratio that the hours passed bear to six. Attendance throughout the summer term, morning or evening, is counted on a proportional basis the same for residence purposes as like attendance during the fall or spring term.

Students planning to attend summer school sessions at other law schools and desiring to use credits obtained at such schools in their course at this Law School must first have the courses they wish to take approved by the Dean. In no event will credits be recognized in excess of those which might be obtained in a similar period in this School.

No student admitted with advanced standing will be recommended for the degree of Bachelor of Laws until he has completed in this School at least one year of residence and passed successfully twenty-eight credit hours with the average required for the degree.

#### GRADUATION REQUIREMENTS

*Application for Graduation.*—Application for a degree should be filed in the Office of the Registrar at the time of registration for the last term of the senior or final year.

*Presence at Graduation.*—A candidate is required to be present at the graduation exercises unless written application for graduation in absence is approved by the Dean.

#### EXAMINATIONS

Written examinations are held at the end of each course. Every student is required to take the regular examinations in the subjects pursued unless excused. No excuse for absence will be granted except by the

Dean and then only for illness or other emergency. Application for excuse must be made in writing not later than one month after the date of the examination. A grade of *NG* (no grade) will be entered on the record of a student thus excused, and he may take the next regularly scheduled examination in the subject for which the excuse has been granted.

No special examinations will be given; except that, upon written application to the Dean, showing sufficient cause, a candidate for a degree at a convocation before the next regular examination, if he would be entitled to take a postponed examination, may, at the discretion of the Faculty, be given a special examination.

If a student fails to take an examination, a grade of *F* (to be counted as zero) will be recorded, unless the student has obtained the Dean's permission to drop the course according to regulations stated on page 20, or to be excused from the examination.

#### GRADES

Grades are indicated by the letters *A*, excellent, 85-100; *B*, good, 75-84; *C*, satisfactory, 65-74; *D*, poor, 55-64—below standard for graduation; *F*, failed—below 55; and *NG*, no grade—student excused from failure to take regularly scheduled examination. See "Examinations," above, for grade upon failure to take an examination.

The grades *A*, *B*, *C*, and *D*, mean that the work has been completed and credit given for the subjects.

*F*, failed, means that no credit will be given. To obtain credit the student must repeat the subject; but a student who has obtained an average of *C* in the work of the term just completed and the preceding term and received a grade of *F* in only one subject during those terms may take the next regular examination in that subject, or a special examination at the end of the next term if he is a candidate for a degree at a convocation before the next regular examination. If on such reexamination he receives a passing grade he will be given credit in the subject. Both grades are recorded.

#### EXCLUSION AND PROBATION FOR POOR SCHOLARSHIP

*Candidates for the Degrees of Bachelor of Laws and Juris Doctor.*—A student who in one term, or two successive terms, fails in courses aggregating eight or more credit hours will be excluded, except that if currently registered he will be permitted to complete the work of the term. Such a student is not eligible thereafter to be registered in the Law School or to attend classes. While excluded he may, however, with the consent of the Faculty, be admitted to the next regular examinations in those subjects in which he has made a grade below passing.



and if he receives a grade of passing in those subjects with an average sufficient to make his cumulative average not less than *C*, he will be reinstated.

A student not subject to exclusion under the foregoing rule who at any time fails to maintain a cumulative average of at least *C*, will be placed on probation during the next two terms in which he is registered. A student on probation may at the discretion of the Dean be required to reduce his program of study. If a student on probation does not, by the end of the second term following that in which his average has fallen below *C*, receive grades sufficient to give him a cumulative average of at least *C*, he will be excluded, except that if currently registered he will be permitted to complete the work of the term.

The cumulative average of a student includes all the grades in all the subjects taken while he is in the Law School as a candidate for a particular degree. When a subject is repeated or a reexamination is taken both the first grade and the subsequent grade or grades are counted in the cumulative average.

In special cases in which a student who has been excluded can clearly demonstrate that he has the capacity to pursue the study of law with definite likelihood of success, his low grades being due to special circumstances beyond his control, such student may be readmitted by the Faculty subject to such conditions as the Faculty may impose.

*Candidates for the Graduate Degrees.*—A candidate for one of the graduate degrees whose work is not satisfactory in the opinion of the Faculty, taking into consideration the requirements and standards for the degree, may, by action of the Faculty, be excluded at the end of the term for which he is currently registered.

*Unclassified Students.*—An unclassified student whose work is not satisfactory in the opinion of the Faculty may, by action of the Faculty, be excluded at the end of the term for which he is currently registered.

#### CLASSIFICATION OF STUDENTS

Students are divided into classes on the completion of credit hours as follows: first year, one through twenty-eight; second year, twenty-nine through fifty-six; third year, fifty-seven or more.

#### RIGHT TO CHANGE RULES

The University and its various colleges, schools, and divisions reserve the right to modify or change requirements, rules, and fees. Such regulations shall go into force whenever the proper authorities may determine.

### RIGHT TO DROP STUDENTS

The right is reserved by the University to dismiss or exclude any student from the University or from any class or classes, whenever, in the interest of the student or the University, the University Administration deems it advisable to do so.

### STUDENT LIFE

#### LIVING ACCOMMODATIONS

*Women Students.*—Women students under twenty-one years of age who are enrolled for twelve or more credit hours of academic work in the University must have their residences approved by the Director of Activities for Women before their registrations can be completed. In the Hattie M. Strong Residence Hall, single rooms are \$35 a month; double rooms are \$30 a month a person. Meals are served at the Student Union. Applications for rooms should be made well in advance. Forms for application, together with detailed information, may be obtained from the Director of Activities for Women.

*Men Students.*—Welling Hall provides double room facilities for 102 students. Rooms rent for \$24 a month a person. Dining facilities are available to all residents. Single and double rooms are provided for 132 students in Draper Hall, a temporary dormitory. Single rooms are \$17 a month; double rooms are \$13 a month a person. The University maintains a limited number of temporary apartment units for married veteran students and their families subject to the same requirements for tenancy as above. Meals are served at the Student Union. Application forms for reservations may be obtained from the Director of Activities for Men.

Information concerning private rooming and boarding facilities near the University for women students twenty-one years of age or older and for men students may be obtained at the offices of the Director of Activities for Women and the Director of Activities for Men. The reservation of rooms in private houses must be made by students.

#### PLACEMENT OFFICE

The University Placement Office, 2114 G Street NW., provides assistance to students seeking full- and part-time employment. This office maintains a registry of positions locally and nationally available and refers qualified applicants for consideration. Information is also available on Civil Service examinations.

### HEALTH ADMINISTRATION

The University maintains a health service that is primarily diagnostic in its intent. For medical emergencies and health consultations there is on the Campus, a Student Health Clinic open from 9:00 A.M. to 5:00 P.M., with physician and nurse in attendance. There is also a rest room for women, with a graduate nurse in charge.

Medical privileges include: (1) the physical examination of every student entering from secondary school; (2) three visits by the University physician or surgeon, office or residence (District of Columbia), in any one illness, exclusive of a specialist, surgical operation, laboratory, or X-ray examination; (3) hospitalization, including board and nursing in the University Hospital for not more than one week during any twelve month period—the necessity to be determined by the Director of Health Administration. The duration of hospitalization period (maximum, one week) is also to be determined by the Director of Health Administration.

This medical benefit does not apply to illness or disability incurred previous to the University term or prior to payment of tuition fees.

The student is allowed if he so desires, to engage physicians and nurses of his own choice, but when he does so he will be responsible for the fees charged.

Rules: (1) The Director of Health Administration is empowered to limit or deny the medical benefits where, in his discretion, a student has by his misconduct or breach of the rules of the University, made himself ineligible; (2) the Director of Health Administration has authority to determine the necessity and length of hospitalization; (3) a student who has severed his connection with the University is ineligible for medical benefits; (4) a student intending to train for an athletic team is required to pass a thorough examination at the beginning of each term; (5) the above regulations apply also during the summer term of the University.

The University is not responsible for injuries received in intercollegiate or intra-mural games, or in any of the activities of the departments of physical education.

### PLACEMENT SERVICE FOR GRADUATES

The Law School takes a continuing interest in the placement of its graduates. The Dean, the Faculty, the Placement Committee of the Student Bar Association, and the University Placement Office cooperate in collecting information from alumni of the Law School, law firms, government agencies concerning opportunities for legal positions throughout the country. Students are invited to discuss their placement problems with the Secretary of the Law School.



## THE DEGREES OF BACHELOR OF LAWS AND JURIS DOCTOR

The programs of study leading to the degrees of Bachelor of Laws and Juris Doctor are addressed to the development and application of legal principles, skills, and ideals which are indispensable to the equipment of a lawyer for professional responsibility and leadership in modern society. They include, first and foremost, the traditional core of legal education, namely, the study of legal materials—judicial, statutory, and administrative—and instruction in the technique of their use. These programs include the study of the nature and purpose of law, the history of the Anglo-American legal system, and the history and standards of the legal profession; practice in the skills of legal research and legal writing; elementary training in trial practice; and, through the medium of seminars, experience in group handling of legal problems.

### REQUIREMENTS FOR THE DEGREES BACHELOR OF LAWS

To be recommended for the degree of Bachelor of Laws (LL.B.) the student must have completed a residence period of not less than three academic years (four years for evening students) and eighty credit hours, with a cumulative average of at least C.

### JURIS DOCTOR

The degree of Juris Doctor (J.D.) is conferred as a recognition of the completion at the George Washington University Law School, with high rank, of the course of study for the Bachelor's degree including experience in research and legal authorship. To be recommended for this degree the student must have completed: (1) a residence period of not less than three academic years (four years for evening students) in the Law School; (2) eighty credit hours with a cumulative average of at least B including one of the following courses: Comparative Law, Jurisprudence, or one of the graduate seminars; and (3) one year of acceptable service on the board of student editors of *The George Washington Law Review*, election to which is subject to regulations laid down by the Faculty. Students taking the combined Arts and Law or Engineering and Law courses are not eligible for this degree.

### HONORS

The degree of Bachelor of Laws or of Juris Doctor "with distinction" will be awarded students who obtain a cumulative average of A in the work for the degree.

## CURRICULUM

**Required and Elective Courses.**—A program of required and elective courses has been developed in order to assure coverage of the basic courses as well as to allow a degree of flexibility to meet the diverse interests of students. All first-year courses, four second-year courses, and one third-year course are required, leaving a total of thirty-two hours of electives. In general, second-year students are restricted to second-year electives but in appropriate cases the taking of third-year electives will be approved. Similarly, specially qualified third-year students may secure approval to take graduate courses.

**Practice and Trial Practice Court.**—Classroom instruction is conducted in pleading and procedure, trial and appellate practice, and evidence. This instruction includes grounding in the principles of the Federal Rules of Civil Procedure and the Federal Rules of Criminal Procedure. In addition, each senior student is required to participate in the work of the Trial Practice Court, which includes the trying of cases as junior counsel and as senior counsel. A special section of the court is devoted exclusively to the trial of patent cases. Experience in preparing and arguing appellate court cases is available through the Case Club Competition.

**Patent Law.**—Students interested in patent law should take, in addition to Torts II—Unfair Trade Practices, the following group of courses: Substantive Patent Law, Patent Office Practice, Patent Trial Practice Court, and Federal Anti-Trust Laws.

**Curriculum.**—Following is the curriculum for students beginning in the fall term. Adjustments are made to meet the needs of students beginning in the spring and summer terms.

## MORNING DIVISION

First Year		Second Year	
FALL TERM	Credit Hours	FALL TERM	Credit Hours
Legal Method and Legal System..	4	Civil Procedure .....	4
Contracts .....	4	Torts II—Unfair Trade Practices..	4
Personal Property .....	2	Electives .....	6
Criminal Law .....	4		
Total .....	14		
		SPRING TERM	Credit Hours
		Real Property .....	4
		Contracts .....	4
		Torts .....	2
		Constitutional Law .....	4
		Total .....	14
		SPRING TERM	Credit Hours
		Evidence .....	4
		Conveyances and Wills .....	4
		Electives .....	6
		Total .....	14

Third Year

FALL TERM		SPRING TERM	
	Credit Hours		Credit Hours
Trial Practice Court	2	Trial Practice Court	2
Electives	10	Electives	10
Total	12	Total	12

EVENING DIVISION

First Year

FALL TERM		SPRING TERM	
	Credit Hours		Credit Hours
Legal Method and Legal System	4	Torts	4
Contracts	4	Contracts	2
Personal Property	2	Criminal Law	4
Total	10	Total	10

Second Year

FALL TERM		SPRING TERM	
	Credit Hours		Credit Hours
Real Property	4	Constitutional Law	4
Civil Procedure	4	Evidence	4
Electives	2	Electives	2
Total	10	Total	10

Third Year

FALL TERM		SPRING TERM	
	Credit Hours		Credit Hours
Torts II—Unfair Trade Practices	4	Conveyances and Wills	4
Electives	6	Electives	6
Total	10	Total	10

Fourth Year

FALL TERM		SPRING TERM	
	Credit Hours		Credit Hours
Trial Practice Court	2	Trial Practice Court	2
Electives	8	Electives	8
Total	10	Total	10

GRADUATE PROGRAM

DEGREES OF MASTER OF LAWS AND DOCTOR OF JURIDICAL SCIENCE

The administration of justice under law is a matter so vast and complex that some graduates feel the need for further study in order to broaden and deepen their understanding of the law. Others desire to extend their study into rapidly developing specialized fields. Graduate instruction, leading to the degree of Master of Laws, is therefore offered to enable qualified students to attain one or both of these objectives.



The degree of Doctor of Juridical Science is offered for selected students whose aim is to extend still further their studies by pursuing original research in law.

Graduate work is available to evening as well as morning students in order that lawyers in private practice and in government service may engage in advanced study or in original research.

#### PROGRAMS OF STUDY FOR FOREIGN LAWYERS

Two programs of study are provided to meet the needs of lawyers who come from countries whose legal systems are not based on the English law. For such lawyers, whose aim is to acquire an understanding of our system so that they may work intelligently with its materials and practitioners after returning to their own countries, there is available the degree of Master of Comparative Law. For foreign lawyers, however, who wish to remain in this country to practice law, there is available the degree of Master of Comparative Law (American Practice), an appropriate program of study. With respect to both programs, the students are not assigned to special classes but work in association with the other students in the regular courses, each student's program being adapted to his individual needs.

#### NON-DEGREE STUDY: CONTINUING LEGAL EDUCATION

As a result of changes and expansion in various fields of the law many lawyers pursue graduate study in order to keep abreast of current developments. Consequently, an important part of the graduate program is to provide continuing legal education for members of the bar not desirous of becoming degree candidates. The offerings in the field of governmental regulation provide opportunities for specialization, although third-year and graduate courses are particularly suitable. Members of the bar taking graduate work in this way enroll as unclassified students.

#### RESEARCH IN PUBLIC LAW

Research in public law is conducted under the supervision of members of the Faculty. The purpose of this research is to furnish means for training specialists in public law, either as government lawyers or as lawyers representing individuals or corporations in cases in which the Government is a party, and to assist in the analysis, clarification, interpretation, and improvement of public law, substantive and procedural. Candidates for the graduate degrees in the Law School and senior

who are eligible for the degree of Juris Doctor may pursue this work. Other students may be admitted with the special permission of the professor in charge.

### REQUIREMENTS FOR THE DEGREES

#### MASTER OF LAWS

To be recommended for the degree of Master of Laws (LL.M.) the student must have completed a residence period of not less than two terms. Such residence should normally be continuous. All requirements for the degree must be completed in this Law School and in a period not exceeding two years after registration for work for the degree. The student must have completed with a minimum average of *B* twenty credit hours in courses listed in the law curriculum as graduate courses except that in appropriate cases third-year courses and Torts II—Unfair Trade Practices may be approved for inclusion in the program of study if not previously taken.

#### MASTER OF COMPARATIVE LAW

The degree of Master of Comparative Law (M.Comp.L.) is for foreign students who intend to return to their countries. To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have completed satisfactorily twenty-four credit hours in approved courses in the curriculum of the Law School or of such other departments of the University as the Faculty of the Law School shall approve.

#### MASTER OF COMPARATIVE LAW (AMERICAN PRACTICE)

The degree of Master of Comparative Law, American Practice (M.Comp.L.(Am.Prac.)) is for foreign students who intend to remain in this country. To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have completed twenty-eight credit hours in approved courses in the curriculum of the Law School with a cumulative average of at least C.

#### DOCTOR OF JURIDICAL SCIENCE

To be recommended for the degree of Doctor of Juridical Science (S.J.D.) the student must have completed a residence period of not less than one academic year. He must have pursued a course of study and research designated by his consultative committee and approved by the Committee on Graduate Studies. At the conclusion of his first year of residence, or at such other time as the Committee on Graduate Studies

may set, the candidate must pass an oral examination in those fields of study selected by the consultative committee. This examination shall be conducted by the consultative committee and such other members of the Faculty and qualified experts from other research institutions as may be selected by the Committee on Graduate Studies.

Not later than the date specified in the University calendar the candidate must submit to the Dean one typewritten original and two legible and complete carbon copies of his dissertation in its final form. The dissertation must contain a summary of from 2,500 to 3,000 words inserted as an appendix. An additional original typewritten copy of this summary must be submitted for publication. To be acceptable the dissertation must, in the opinion of the examining committee, constitute a substantial contribution to the field of law concerned and be suitable for publication. Additional information will be supplied by the Chairman of the Committee on Graduate Studies.

The summaries of accepted dissertations will be printed in a volume forming a number of the University BULLETIN. The successful candidate for the doctorate is required, before receiving his degree, to pay a fee to cover the expense of printing the summary of his dissertation.



COURSES OF INSTRUCTION



## COURSES OF INSTRUCTION

The courses of instruction listed below are subject to change. The University reserves the right to withdraw any course announced.

The number which precedes the name of a course indicates the term in which that course is offered. An odd number indicates that the course is offered in the fall term; an even number, that it is offered in the spring term; and a double number (e.g., 241-42), that it begins in the fall and continues in the spring term. The letter "x" following an odd course number (e.g., 141x) indicates that the course, normally offered in the fall term, is given in the spring term. The letter "x" following an even course number (e.g., 112x) indicates that the course, normally offered in the spring term, is given in the fall term.

First-year courses are numbered from 101 to 200; second-year courses, from 201 to 300; third-year courses, from 301 to 400; and graduate courses, from 401 to 500.

The number of hours of credit given for the satisfactory completion of a course is indicated in parentheses after the name of the course. Thus, a year course giving two hours of credit each term is marked (2-2), and a term course giving two hours of credit is marked (2).

Morning classes begin at 9:10 A.M. Evening classes begin at 5:50 P.M.

### FIRST YEAR

#### 101 *Legal Method and Legal System* (4)

Fryer, Benson, Burke, Orentlicher, Cunningham

Introduction to study of substantive and procedural law dealing with basic concepts. Training in method and technique of case law, based upon modern records in state and federal cases, followed by practice in the use of law books and legal writing. Importance of language in law; legal reasoning, statutory interpretation, and use of precedents. Background development of Anglo-American legal system; organization of the judiciary and the bar, stressing enforcement of ethical standards. Fryer and Benson, *Cases on Legal Method and Legal System*, 2 vol. ed. 1949. Morning and evening sections. (Also offered 1952 summer term.)

Law 101x, same as 101, offered spring term. Morning and evening sections.

#### 111-12 *Contracts* (4-2)

Mayo, Jones

Scope of protection accorded contracts; specific performance of contracts other than land transactions; damages, restitution. Mutual assent: offer and acceptance, misunderstanding, mistake, reformation, Parol evidence rule. Consideration, third party beneficiaries, assignments, conditions, Statute of Frauds. Morning and evening sections. (Also offered 1952 summer term.)



123 *Criminal Law and Procedure* (4)

Origin and purposes of criminal law; elements of criminal liability; mental disorders; solicitation, attempt, and conspiracy; crimes against the person, against property, and against both; statutory offenses; criminal procedure, with consideration of Federal Rules of Criminal Procedure. Morning. (Also offered 1952 summer term.)

Law 123x, same as 123, offered spring term. Evening.

133 *Personal Property* (2)

Concepts of property and ownership; possession; finding; bailment; liens and pledges; acquisition of title by bona fide purchase, adverse possession, accession, confusion, judgment, satisfaction of a judgment, and gift. Morning and evening sections. (Also offered 1952 summer term.)

Law 133x, same as 133, offered spring term. Morning and evening sections.

138 *Real Property* (4)

Historical background of estates and conveyances; possessory estates; concurrent estates; natural rights; easements, profits, and licenses; adverse possession and adverse user. Morning. (Also offered 1952 summer term.)

Law 138x, same as 138, offered fall term. Evening.

142 *Torts I* (4)

Intended and unintended interference with the person or tangible things, defamation of the person, malicious prosecution. Morning and evening sections.

150 *Constitutional Law* (4)

Historical introduction, judicial approach and methods, doctrine of separation of powers, powers of the National Government, the federal system and relation of federal and state courts. Morning and evening sections. (Also offered 1952 summer term.)

## SECOND YEAR

205 *Civil Procedure* (4)

Function and composition of pleadings, including their relation to proof. Emphasis is upon reforms, as exemplified by modern code provisions and the Federal Rules of Civil Procedure. Clark, *Civil Pleading and Procedure*, 2d ed. Morning and evening sections. (Also offered 1952 summer term.)

223x *Domestic Relations* (2)

Marriage, annulment, and divorce; rights of husband and wife, rights of parent and child; infants. Morning and evening sections. (Also offered 1952 summer term.)

234 *Evidence* (4)

Functions of court and jury; witnesses; hearsay, opinion, and circumstantial evidence; proof of authenticity and contents of writings. Morning and evening sections. (Also offered 1952 summer term.)

Law 234x, same as 234, offered fall term. Evening.

247 *Commercial Paper* (4) Orentlicher  
Bills of exchange, promissory notes and checks, especially under the  
Negotiable Instruments Law. Morning and evening sections. (Also  
offered 1952 summer term.)

250 *Conveyances and Wills* (4) Cunningham  
Land contracts, conveyances, mortgages, recording; formation and  
revocation of wills, testate and intestate succession. Morning and  
evening sections.

251 *Restitution* (2) Burke, Orentlicher  
Legal remedies for restitution of benefits obtained or conferred by  
performance of contract, misrepresentation, mistake, and coercion.  
Morning and evening sections.

253 *Torts II—Unfair Trade Practices* (4) Oppenheim  
Unfair trade practices at common law and under state and federal  
statutes. Trade-marks and trade names, including Trade-Mark Act  
of 1946. Misappropriation. False advertising at common law. Fed-  
eral Trade Commission jurisdiction over misrepresentation practices.  
Lotteries and premiums. Disparagement of competitor's goods and  
business methods. State Fair Trade Acts (resale price maintenance).  
Price discrimination (State and Federal Robinson-Patman Act). State  
statutes prohibiting sales below cost. Inducing breach of contract.  
Commercial bribery. Miscellaneous business torts constituting un-  
fair trade practices, Cases, Comments and Materials (1950).  
Morning and evening sections.

258 *Commercial Transactions* (4) Orentlicher, Weston  
The law relating to the sale and distribution of goods, and to the  
security financing devices utilized in this connection, with particular  
attention to the effect of uniform laws. Morning and evening sections.

261 *Agency-Partnership* (4) Cooper, Murdock  
Master and servant (status of agent), respondeat superior, nature of  
agency relation; actual authority, parties (disclosed and undisclosed  
principal), unauthorized transactions, notice, notification. Formation  
of partnerships, partnership property, rights and duties of partners  
inter se, nature and enforcement of the partnership obligation, disso-  
lution of the partnership, actions by and against partners. Morning  
and evening sections. (Also offered 1952 summer term.)

270 *Corporations* (4) Cooper, Weaver  
Legal requirements as to contributions of capital; powers and rights  
of corporations, corporate officials, and shareholders. Morning and  
evening sections. (Also offered 1952 summer term.)

### THIRD YEAR

303 *Administrative Law* (4) Davison  
Legislative setting for administrative bodies; judicial control of ad-  
ministrative action, public utilities, taxation, alien laws. Federal  
Trade Commission, workmen's compensation, etc. Davison and  
Grundstein, Cases on Administrative Law. Morning. (Also offered  
1952 summer term.)  
Law 303x, same as 303, offered spring term. Evening.

- 305 **Municipal Corporations (2)**  
Organization, powers, functions and legal relations of local governmental units. Evening. (Also offered 1952 summer term.) McIntire
- 306 **Government Corporations (2)**  
Organization, powers, functions, and legal relations of functional governmental units separately incorporated. Prerequisite: Law 305. (Not offered in 1952-53.) McIntire
- 308 **Government Contracts (2)**  
Normal and war powers aspects of government procurement, including administrative and legislative policy and procedures, and legal problems involved in contracts, contract claims, policy price determination, contractual cost or profit control devices, renegotiation, termination settlement. Evening. Van Vleet
- 315 **Conflict of Laws (4)**  
Study of cases involving foreign elements; principles of jurisdiction and limitations upon its exercise; procedure, torts, workmen's compensation, contracts, property, family law, administration of estates, business associations. Cheatham, Goodrich, Griswold, and Reese. Cases on Conflict of Laws, 3d ed. Evening. (Also offered 1952 summer term.) Cunningham
- 317x **Creditors' Rights (4)**  
Remedies of unsecured creditors: judgments, fraudulent conveyances, creditors' agreements, equity and statutory receiverships, and bankruptcy. The general approach is that of law administration. Morning. (Also offered 1952 summer term.) Davison, Weaver
- 321-22 **Current Decisions (2-2)**  
Required of, and limited to, members of the student staff of the Law Review. Time to be arranged. Bark
- 324 **Federal Jurisdiction (2)**  
Constitutional and statutory origins of federal courts, cases arising under the laws and the Constitution, diversity of citizenship, jurisdictional amount, removal procedure and jurisdiction, limitations on federal jurisdiction, state and federal conflicts, substantive law applied by federal courts. McCormick and Chadbourne. Cases on Federal Courts. Morning and evening sections. May
- 326 **Insurance (2)**  
The insurance device in life, property, and other risks. Morning and evening sections. Murder
- 327x **International Law (4)**  
Origin, nature, sources and authority; the international community; recognition, organization (the United Nations); nationality, territorial jurisdiction; treaties; diplomatic and consular agents; state responsibility and international claims; pacific settlement; war; neutrality. Morning and evening sections.



**329 Labor Law (4)**

Merrifield

Laws applicable to strikes, picketing, boycotts, etc.; organization and representation of employees; negotiation of collective bargaining contracts; inter-union and intra-union relations; settlement of wage disputes (arbitration, mediation, conciliation). Cases, legislative and administrative materials, readings. Morning and evening sections.

**332x Legal Accounting (2)**

Fey

A study of elementary accounting principles and techniques; application of accounting principles to legal problems. Morning and evening sections. (Also offered 1952 summer term.)

**333 Legislation (4)**

Mallison

Justiciable aspects of the legislative process; forms and types of statutes; principles of statutory interpretation, structure and drafting. Evening. (Also offered 1952 summer term.)

**335-36 Trial Practice Court (2-2)**

Laws, Morris, Craighill,

Kirkland, Edgerton, Myers, Marshall, Jackson,

Herrick, Monk, Newmyer, Kendrick, Skinker

To be taken in the senior year. Prerequisite: Law 205 and 234. Morning and evening sections.

**337 Future Interests (2)**

Reno

Future interests at common law and under modern statutes, construction of limitations, powers of appointment, rule against perpetuities. Summer term 1952.

**340 Constitutional Interpretations (4)**

Collier

Advanced course in constitutional law. The Constitution and constitutional tradition; doctrines of limited government, separation of powers, implied limitations on legislative power, and significance of "due process" in current constitutional developments. Introduction to comparative constitutional law, with studies in the constitutional law of selected states of the Union. Evening.

**345 Substantive Patent Law\* (2)**

Robillard

Substantive patent law; patentability; revision, use, and enforcement of patents. Evening.

**346 Patent Office Practice\* (2)**

Henry

Rules of practice; appeal and interference procedure. Evening.

**349-50 Patent Trial Practice Court\* (2-2)**

Henry, Bailey

This course may be elected instead of Law 335-36 to satisfy the Trial Practice Court requirement. Both courses may not be counted toward a degree. Evening.

\* Patent law students should take Law 345 and Law 349 concurrently in the fall term and Law 346 and Law 350 concurrently in the spring term. Law 349-50 may be taken only by students who are taking or have taken Law 345.

- 351 *Public Utilities* (2) Mallison  
Limits of regulation of business affected with public interest; ascertainment of value of property used for the public service and the fixing of adequate rates of return. Evening.
- 362x *Security Transactions* (4) Jones  
Security interests in real and personal property, their creation, transfer, enforcement, and extinguishment, together with security problems in the fields of suretyship and bankruptcy.  
Summer term 1952.
- 373 *Taxation* (2) Collier  
Introductory course on basic concepts of federal tax system. Attention given to state inheritance and income taxes. Problems of jurisdiction to tax, construction of tax statutes, methods of judicial review of administrative actions in the tax field, modern excise taxes on business concerns. Magill and Maguire, *Cases on Taxation*, 4th ed. Morning and evening sections.
- 374 *Taxation—Federal Estate and Gift* (2) Fey  
Specific problems in federal estate and gift taxation, with consideration of relevant state inheritance tax problems. Evening.  
Law 374x, same as 374, offered fall term. Morning.
- 375-76 *Taxation—Federal Income* (2-2) Fey, Sugarman  
Federal income taxation, including excess profits, imposition and computation problems. Evening.  
Law 375x (4), same as 375-76 (2-2), offered spring term. Morning.
- 378 *Federal Anti-Trust Laws* (4) Oppenheim  
Restraints of trade at common law. Public policy under Sherman Anti-Trust Act of 1890 and Federal Trade Commission and Clayton Acts, including mergers, consolidations and monopoly. Loose association activities (price-fixing agreements, trade associations, international cartels). Specific practices such as resale price maintenance, delivered price systems, exclusive arrangements and tying devices, trade boycotts. Patents and copyrights under anti-trust laws. Remedies. Oppenheim, *Cases on Federal Anti-Trust Laws*. Evening.
- 381 *Trusts* (4) Weaver  
Creation, elements, administration, enforcement, termination. Liabilities to and of third persons. Resulting and constructive trusts. Bogert, *Cases on Trusts*, 2d ed. Morning and evening sections.
- 383 *Military Law and Jurisdiction* Wiener  
Sources of military jurisdiction; military law proper, including court-martial jurisdiction and procedures before, during, and after trial; military government; martial law; laws of war and treatment of offenders. Evening.
- 386 *Aviation Law* (2) Rhyne  
Procedure before Civil Aeronautics Board; legal problems arising in connection with air transportation and airports, international conventions and organizations. Evening.

- 388 *Admiralty* (2) Colclough  
Federal and state jurisdiction; jurisdiction over waters, craft, contracts, torts, crimes, in equitable matters, etc.; laws applicable to maritime workers and maritime liens. Sprague and Healy. Cases on Admiralty. Evening.

- 391 *Government Regulation of Communication Media* (2) Mayo  
Examination of the legal doctrine relating to free speech in the channels of mass communication (newspapers, motion pictures, radio, and television); analysis of the control exercised over the content of these media by government, private owners, and other interests; appraisal of the comparative utility of various regulatory techniques for implementing government policies affecting these media. Evening.

GRADUATE COURSES

- 403 *Administrative Law Seminar* (2) Davison  
Group study of specific problems in administrative law. Time to be arranged.  
Law 403x, same as 403, offered spring term. Time to be arranged.

- 408 *S.E.C. Aspects of Corporate Finance* (2) Kroll  
Federal and state regulation of the distribution of securities, the securities markets, and the corporate structure and management of public utility and investment companies. Primarily the aspects of corporate finance dealt with by the Securities and Exchange Commission. Evening.

- 410 *Legal Operation of Modern Social Legislation* (2)  
Philosophy, constitutional theory, and legal principles in the operation of the developing socio-economic programs for security of the individual, including Workmen's and Unemployment Compensation, Public Assistance, and related programs.  
Summer term 1952.

- 413 *Labor Law Practice* (2) Merrifield  
Practices and procedures in voluntary arbitration cases and before federal agencies, such as National Labor Relations Board, Wage and Hour Division, Federal Mediation and Conciliation Service, and Wage Stabilization Board.  
Summer term 1952.

- 415 *Comparative Law* (4) Murdock  
Historical and comparative study of the fundamental principles of the Roman and modern Civil Law (law of South and Central America and most of continental Europe); comparative study of selected legal institutions to exemplify significant differences between the civil and common law systems in source materials and in methods and approaches to the solution of legal problems. Evening.

- 421 *Constitutional Law Seminar* (2) Collier  
Group study of contemporary problems in constitutional law. Time to be arranged.



- 427 *World Law* (2)  
The United Nations as a basis of reference for a study of international law. Evening. (Also offered 1952 summer term.) Czyzak
- 430 *International Law Seminar* (2)  
Group study of contemporary problems in international law. Time to be arranged. Murdock
- 435 *Jurisprudence* (4)  
History of jurisprudence; schools of jurists, particularly the nineteenth century schools; sociological jurisprudence; theories of justice; the nature of law; law and morals; law and the state; the scope and subject matter of law, sources and forms of law; the traditional element; analysis of general legal concepts. Hall, Readings in Jurisprudence. Evening. Collier
- 437x *Monetary Law* (2)  
Introductory survey of the provisions of public law by which money is administered, relating particularly to the Federal Reserve System; the legal character of money and of monetary obligations; legal tender; the "dollar-for-dollar" rule and its limitations; protective clauses (gold, commodity, index clauses); foreign exchange (money of contract, money of payment, conversion, rate of exchange, conflict of laws problems). Evening. Dach
- 451x *Trade Regulation Seminar* (2)  
Group study of current problems relating to unfair trade practices and federal anti-trust laws. Time to be arranged. Oppenheim
- 461 *Corporate Taxation Seminar* (2)  
Group study of special problems in corporate taxation. Time to be arranged. Fey
- 462 *Federal Taxation Seminar* (2)  
Group study of special problems in federal taxation. Time to be arranged. Fey
- 466 *Estate Planning Seminar* (2)  
Consideration of the problems involved in planning an effective and economical gift distribution of property interests. Typical estates, both large and small, will be considered in the light of the results commonly sought by the donor and the techniques and restrictions suggested by the law of property, wills, future interests, insurance, and federal and state taxation. Time to be arranged. Weaver
- 468 *Labor Law Seminar* (2)  
Group study of contemporary problems in labor law. Time to be arranged. Merrifield

# DEGREES CONFERRED

## BACHELOR OF LAWS

MAY 30, 1951

Milton E. Abramson B.B.A. 1942, College of the City of New York	N.Y.	Owen Ken Earl A.B. 1948, Brigham Young University	Idaho
Orin Alshuler B.S. in Ch. Eng. 1948, Purdue University	N.Y.	Robert William Faddler B.M.E. 1946, College of the City of New York	N.Y.
Charles Aronson Bevelacqua B.S. in M.E. 1947, University of Pittsburgh	Mich.	Irving Fleishman A.B. 1948, The George Washington University	D.C.
William Bogen A.B. 1946, The George Washington University	Va.	George Howard Foster, Jr. B.S. 1942, United States Naval Academy	D.C.
Paul Arnold Borel B.S. in C.E. 1944, University of Kansas	N.Y.	Marion Julian Foster B.S. 1949, University of Virginia	Va.
M.B.A. 1948, Harvard University	Va.	Charles Frederick Garrau B.M.E. 1939, The George Washington University	Va.
Paul 1944, Columbia University		Charles Donald Garrett B.S. 1937, Franklin and Marshall College	Va.
Henry 1944, University of Minnesota		Arthur Gass B.S. in E.E. 1935, Drexel Institute of Technology	Md.
John 1949, The George Washington University	Va.	Robert Stewart Gibbs A.B. 1948, The George Washington University	N.C.
John 1949, The George Washington University	D.C.	Thomas Martin Givings, Jr. Richard Ellsworth Glasgow	D.C.
Edgar 1946, Rhode Island College of Education	R.I.	A.B. 1948, Bradley University	Md.
John 1948, Brown University	D.C.	John Henry Glowacki B.S. 1949, Bucknell University	Va.
William 1943, University of Tennessee	Md.	Lawrence Goodberg Samuel Zachary Goldman	Pa.
George 1949, University of Maryland	Tenn.	Alfred Gryn Gorf Albert Harold Grenadier	Conn.
John 1949, University of Maryland	Md.	A.B. 1947, The George Washington University	D.C.
John 1947, Oberlin College	D.C.	Katherine I. Hancock A.B. 1942, University of California	N.Y.
John 1947, Oberlin College	N.Y.	Richard Carl Harris B.S. 1947, Iowa State College	Va.
John 1947, Oberlin College	Md.	Byron Edward Harrison Alexander M. Murray Hearn	Calif.
John 1947, Oberlin College	Ga.	Jack Robert Herman A.B. 1943, The George Washington University	Iowa
John 1947, Oberlin College	Md.	Quinton E. Hughes B.S. 1948, University of Georgia	D.C.
John 1947, Oberlin College	N.Y.	Michael Benjamin Holland B.S. in E.E. 1947, Cornell University	Mo.
John 1947, Oberlin College	S.C.	James George Hollis B.S. 1948, American University	Va.
John 1947, Oberlin College	S.C.	Irving Holtzman A.B. 1946, Brooklyn College	Ga.
John 1947, Oberlin College	S.C.	Edward John Houser A.B. 1946, The George Washington University	N.Y.
John 1947, Oberlin College	S.C.	John Joseph Jaskot	Ill.
John 1947, Oberlin College	S.C.		Pa.

William George Kemp	Md.	Catherine Elizabeth Phelan	Wyo.
A.B. 1940, The George Washington University		A.B. 1936, Clarke College	Tea.
Arthur Peter Kent	Va.	Alfred Hunschlusen Peyer, Jr.	N.J.
B.S. 1941, The George Washington University		B.S. in M.E. 1948, Rice Institute	P.C.
David Bowen Kinney	Va.	Morton M. Pignak	N.J.
A.B. 1943, Alma College		William Rehnack	Va.
James Nolan Kinsel	D.C.	Seaton George Reisman	Ola.
B.S. 1943, University of Maryland		Brian Wilson, Ryne	
Morton Joseph Kirsch	D.C.	Perry Leonard Roberts	
Lester Kraft	Md.	B.S. 1938, Oklahoma Agricultural and Mechanical College	Pa.
A.B. 1946, University of Maryland		Armand Irving Robinson	D.C.
George Edward Langer	N.Y.	B.S. 1947, Drexel Institute of Technology	D.C.
A.B. 1948, Union College		Jean Ann Rutledge	
John Gregory Laughlin	Kans.	A.B. 1947, University of Indiana	Pa.
Frank Clay Leach, Jr.	Ky.	William John Schaefer, Jr.	
B.S. in M.E. 1947, University of Kentucky		A.B. 1948, University of Pittsburgh	Pa.
Howard Isadore Legum	Va.	Michael Edward Sedmak	W.Va.
A.B. 1943, Harvard University		A.B. 1947, Muhlenberg College	Pa.
Irving Levine	Md.	Earl Edward Shaffer	Va.
Arnold Charles Lewis	N.Y.	James Francis Sharkey	N.Y.
B.S. in Eng. 1937, College of the City of New York		George Walter Shalhause	
E. Jerry Light	Pa.	(With distinction)	
B.S. in E.E. 1946, Columbia University		Benjamin M. Shetman	
Harold Lipsky	N.J.	A.B. 1948, New York University	
A.B. 1947, New York University		Joseph Shore	
Dewey Cecil Long	Okl.	B.S. in M.E. 1946, Illinois Institute of Technology	Mo.
John Irving Loy	Calif.	George Martin Skelly, Jr.	N.Y.
A.B. 1942, University of California at Los Angeles		A.B. 1949, The George Washington University	
Layton Frank MacNichol	D.C.	Hugh Edward Smith	N.C.
A.B. 1942, The George Washington University		B.Ch.E. 1947, Rensselaer Polytechnic Institute	
Nicholas John Margaritis	Calif.	Wallace Morrell Smith	N.Y.
Charles Buchanan Markham	N.C.	A.B. 1949, The George Washington University	N.Y.
A.B. 1945, Duke University		Lewis Jay Solomon	Pa.
Cornelius Joseph McCool	D.C.	Norman Noah Spain	
Raymond John McDonough	N.Y.	A.B. 1947, Brooklyn College	
George K. Mordas	N.J.	Mervin Stein	N.Y.
Sidney J. Muss	N.Y.	B.S. 1947, B.C.E. 1948, Rensselaer Polytechnic Institute	N.Y.
A.B. 1948, The George Washington University		Leif Emil Steinert	D.C.
Rupert Albert Mulhearn	Va.	Eugene Paul Sylvester	Pa.
A.B. 1957, The George Washington University		Thomas Louis Tanner, Jr.	N.Y.
Donald Richard Nyhagen	Va.	Dyer Justice Taylor	Pa.
B.S. 1944, University of California		John Peter Tebeau	
Nicholas Ewing Oglesby, Jr.	D.C.	Martin Robert Techner	
B.Ch.Eng. 1943, M.Ch.Eng. 1947, Rensselaer Polytechnic Institute		Harold Robert Telser	
Frank Richard Ortolani	Pa.	William A. Temple	Pa.
B.S. 1941, B.S. in Ch.Eng. 1948, Pennsylvania State College		B.S. 1946, United States Military Academy	
Axel Waldemar Henry Oxholm	Wash.	Fraze Vesta Thomas	Va.
A.B. 1949, The George Washington University		A.B. 1943, The George Washington University	
B.S. 1948, United States Merchant Marine Academy		David Winship Tibbott	Pa.
Arthur Andrew Panner, Jr.	Md.	E.M.E. 1945, University of Virginia	Pa.
B.S. 1948, University of Maryland		Lyman Ray Tucker	
Leon Pear	D.C.	A.B. 1949, The George Washington University	
B.S. 1947, University of Maryland		Clarence William Turner, Jr.	Pa.
Charles William Pendergast	W.Va.	B.S. in M.E. 1947, Purdue University	
Horace Hugo Petrus	D.C.	Barbara Marie Yacht	Me.
B.S. 1949, Louisiana State University		A.B. 1949, The George Washington University	
George Peter Petros	D.C.	Harry Robert Venables	Pa.
A.B. 1947, The George Washington University		A.B. 1947, University of Maryland	
Robert Charles Perry	Md.	Thospe Albert Waddingham	
		Lucile Bird Wendt	
		A.B. 1942, University of South Dakota	
		Joseph Hill White III	
		A.B. 1948, American University	



Robert Ora Woods  
James Lehan Wray  
Berkeley Wright, Jr.  
Wilton Tavenner

Calif.	Robert Bell Yorty	Nev.
Ark.	A.B. 1950, University of Nevada	
D.C.	Richard Eugene Zachary	D.C.
N.J.	Joseph Zitomer	D.C.

NOVEMBER 12, 1951

Robert James Annis		
James Leo App		
Robert Frederick Ashley		
John Miner Ault		
Paul Robert Baston		
Norman Basom		
A.B. 1948, Bucknell University		
Emette Louis Bernard		
A.B. 1947, Ohio State University		
Frederic Lloyd Bouton		
Marjorie Cecile Bradway		
B.S. in M.E. 1948, Purdue University		
James Forchong Brooks		
A.B. 1949, Marshall College		
William Franklin Brown III		
B.S. in Ch.E. 1948, Purdue University		
Robert J. Businell		
B.S. in M.E. 1948, Purdue University		
Robert Addison Carr		
B.S. in J. 1942, Ohio State University		
Frederic Isaac Charles		
John Louis Chennault		
Robert Chon		
A.B. 1949, The George Washington University		
Edwin Collier		
A.B. 1949, The George Washington University		
Robert Frank Custard		
B.S. in Eng. 1950, The George Washington University		
Walter Delmon		
B.S. in E.E. 1946, Illinois Institute of Technology		
John Delmon		
Robert Delmon		
A.B. 1947, Duke University		
Robert Delmon		
A.B. 1948, Ohio State University		
Robert Delmon		
A.B. 1948, University of South Carolina		
Robert Delmon		
A.B. 1948, The George Washington University		
Robert Delmon		
B.S. in M.E. 1943, University of Missouri		
Robert Delmon		
A.B. 1948, Presbyterian College		
Robert Delmon		
B.S. in E.E. 1948, University of Texas		
Robert Delmon		
B.S. in M.E. 1948, University of Virginia		
Robert Delmon		
B.S. in M.E. 1943, University of Maryland		
Robert Delmon		
B.S. in M.E. 1948, Duke University		
Robert Delmon		
Edwin Freeman		

Mich.	William Carl Gaus	Va.
Wis.	A.B. 1949, Bucknell University	
Tex.	Audrey Dooling Ghorzoni	Pa.
Va.	A.B. 1948, Catholic University of America	
D.C.	Edward Lee Gilmore	W.Va.
	A.B. 1949, West Virginia University	
Ohio	Robert M. Graham	N.Y.
	B.S. 1948, American University	
Wyo.	Robert A. Green	Mass.
Ind.	A.B. 1942, Clark University	
	B.S. 1948, University of Michigan	
W.Va.	Nathan David Grondstein	Mich.
	A.B. 1945, M.S. 1950, Ohio State University	
Md.	William M. Rae Hauck	Ind.
Ark.	Mason Steele Hays	Ark.
	A.B. 1948, University of Arkansas	
Ind.	Ruth Joyce Hens	D.C.
Calif.	A.B. 1948, University of Maryland	
	Francis Dewey Heyward	N.C.
Pa.	A.B. 1948, University of North Carolina	
La.	Frank Joseph Holzman	Pa.
D.C.	A.B. 1949, Muhlenberg College	
N.J.	George Patrick Hoyt	Hawaii
	A.B. 1949, University of Hawaii	
Va.	William Patrick Hurley	N.M.
	B.S. 1945, United States Military Academy	
D.C.	Alan Stanton Hutchinson	D.C.
	B.S. 1948, St. Martin College	
	Edward Richard Hyde	N.Y.
	B.S. in E.E. 1948, Purdue University	
	Joseph Francis Iaskiewicz	Pa.
	A.B. 1949, The George Washington University	
	Shigeo Kanemoto	Hawaii
	A.B. 1948, University of Hawaii	
	Irvine Kantor	Mich.
	A.B. 1947, University of Michigan	
	William Robert Kearney	Mich.
	Harold Grant Kennedy	Tex.
	Murray Abraham Kevitz	N.J.
	B.S. 1949, New York University	
	John Frank Learman	Mich.
	B.S. in M.E. 1949, University of Michigan	
	Patricia Lattimer Learman	Mich.
	A.B. 1949, West Virginia University	
	Harry Levy	N.J.
	B.S. in M.E. 1941, Cooper Union	
	B.S. in M.E. 1946, New York University	
	M.S. 1946, Stevens Institute of Technology	
	Eric Lindblad	Va.
	A.B. 1949, University of Rochester	
	Elizabeth Berkeley Lockhart	Va.
	A.B. 1948, College of William and Mary	
	Leonard Luther Long, Jr.	Va.
	B.S. 1947, Virginia Military Institute	
	James Eugene Lottner	Mo.
	A.B. 1948, The George Washington University	

Thomas Archie Martin A.B. 1949, The George Washington University	Ill.	Gerald Hamilton Ragsdale A.B. 1948, State University of Montana	Mont.
Arthur Richard Mattison, Jr. A.B. 1948, The George Washington University	D.C.	Paul Donald Ring Lewis Ross Roberts Alan Conrad Rowe B.S. in Physics 1944, B.S. in Bus. and Eng. Adm. 1947, Massachusetts Institute of Technology	N.C. Md. N.J.
Roe David M. Burnett, Jr. B.S. in E.E. 1944, Georgia Institute of Technology	Tenn.	Gersten Sadowky B.M.E. 1947, College of the City of New York	N.Y.
John Bennett McDaniel B.F.E. 1949, University of Louisville	Ky.	James K. Scarborough A.B. 1949, The George Washington University	Miss.
Charles Graham McLean A.B. 1948, The George Washington University	N.C.	Robert Colgan Schmertz, Jr. B.S. 1944, Princeton University	Pa.
Clayton Fred McSoud A.B. 1949, A.M. 1950, The George Washington University	Okla.	Robert Edgar Shank Sidney Shandell B.S. 1944, Yale University	Calif.
Joseph Jackson Mercer, Jr. A.B. 1947, Emory University	Ga.	M.D. 1946, Long Island College of Medicine	N.Y.
Paul James Mohr Robert James Mooney B.F.E. & M.E. 1942, Yale University	N.Y. Conn.	Edward Frederick Sloane A.B. 1946, The George Washington University	D.C.
Jesse Maura Moore Burr Irwin Shaw Mowry B.S. in C.E. 1940, Purdue University	Ark. Ill.	Grover Lee Small A.B. 1949, University of Maryland	Pa.
Edwin Stanley Nail Anthony N. N. N. Robert Francis Olmert Thomas Constantine Pallas B.S. in I.E. 1948, Washington University	Okla. Calif. D.C. Mo.	Edward Solomon, Jr. A.B. 1947, Pennsylvania State College John Brandon Sowell B.M.E. 1948, Georgia Institute of Technology	Ga. N.Y.
Nicholas Anthony Pandlacio B.S. in Ch.E. 1947, Northeastern University	Mass.	Bernhard Ray Swick B.S. 1947, University of Wisconsin	Pa.
Frank Theodore Pearstree A.B. 1949, William Jewell College	N.J.	Ralph Leslie Thomas R.L.F. 1947, University of Louisville	W.Va.
Charles David Peterson A.B. 1948, Harvard University	Maine	Conrad Warden Thompson, Jr. B.S. 1947, Marshall College	N.C.
Ross George Porter Met. Ray Poston B.S. 1942, University of Chattanooga	Utah Va.	Ralph M. T. T. Philip Lambert Warner A.B. 1948, American University	Va.
James Francis Prendergast A.B. 1948, Lafayette College	Pa.	June Ray Welch A.B. 1949, Texas Christian University	Va.
Richard C. Quesser B.S. in E.E. 1947, New York University	Va.	Charles Warren Whitmore M.D. 1947, University of Virginia	Md.
Warren Daley Orenstadi A.B. 1949, The George Washington University	Va.	David Morris Wortman A.B. 1948, The George Washington University	Md.

## FEBRUARY 22, 1952

Elmer Sanford Albertson, Jr. B.S. in Ch.E. 1947, Northwestern University	Calif.	Paul Joseph Danilowicz A.B. 1948, Wilkes College	D.C.
George Clinton Astell, Jr. Robert Gabriel Baker A.B. 1947, University of Minnesota	Pa. D.C.	Lewis Delason A.B. 1948, The George Washington University	Mass.
Alan Isaac Baskin A.B. 1949, Pennsylvania State College	Pa.	Norman Ross Doe A.B. 1948, Marshall College	Va.
Jerome Philip Bloom B.S. & M.E. 1947, Wayne University	Mich.	Jordan Albert Dreifus A.B. 1949, Harvard University	N.Y.
Howard Moore Bollinger B.S. 1944, M.S. 1947, Massachusetts Institute of Technology	Md.	Saul F. Drimmer B.S. 1948, The George Washington University	Va.
M.E.A. 1948, Harvard University	Pa.	William Joseph Driver B.F.A. 1947, Niagara University	N.Y.
John Paul Campiano B.S. 1947, Pennsylvania State Teachers College, Marshfield	Md.	Dorothy Dunn A.B. 1948, University of Nebraska	Idaho
George Henry Clark B.S. 1949, The George Washington University	Md.	Carson George Dzwarsbak John Anthony Ficklin B.S. 1947, M.S. 1948, University of Wisconsin	Pa.
William Martin Creasy A.B. 1949, Duke University	Md.	Stephen Edward Fleck B.S. 1949, Thiel College	Pa.

# The Law School

47

Conrad Archilles Fontaine A.B. 1942, Syracuse University Norman Friedman B.M.E. 1945, College of the City of New York Joseph Donald Gelb B.S. 1948, University of Scranton Herman Jacob Gordon B.S. in E.E. 1948, Purdue University John Francis Games John John Gramling Sam Ross Hirschbarger A.B. 1942, West Virginia University David Howard Hensetta A.B. 1942, The George Washington University Richard H. Heth A.B. 1951, The George Washington University Eugene Henslow Hix E.M.E. 1949, The George Washington University Thomas Leon Holmes A.E. 1945, University of Pittsburgh Mary Tread Hitt A.B. 1945, The George Washington University Abner Warren Jeffers B.S. 1945, Evansville College Pauline Kaestlin A.B. 1945, The George Washington University Raymond Kauffman A.B. 1945, Texas State College for Women Mrs. Jane Kipple A.B. 1945, The George Washington University Miss Helen Knowles A.B. 1945, Michigan State College John E. Lappin B.S. 1945, Pennsylvania State College Eugene Leland B.S. 1945, University of Maryland Robert L. Leno A.B. 1945, McCormick Miss A. 1945, West Virginia University Charles W. Meyer Harvard University Robert R. Mohaud B.S. 1945, San Diego State College A.B. 1945, San Diego State College	N.H. N.Y. Pa. Ill. Va. Pa. W.Va. Va. D.C. Va. Pa. Pa. Ala. Ind. Va. Tex. Colo. D.C. N.Y. D.C. N.Y. Md. Md. Ohio Tex. Maine Calif.	Theodore Arnold Miller Sumner Narkiss Kenneth Wells Parkinson A.B. 1950, The George Washington University Elena Victoria Perry A.B. 1948, Hunter College John Randolph Pherson A.B. 1948, The George Washington University Jacqueline Poole A.B. 1944, Mary Baldwin College William L. Powers A.B. 1950, Princeton University Robert Nelson Price A.B. 1948, Haverford College Hollie Mae Reed A.B. 1947, The George Washington University Bradley Charles Ricks Robert E. Robertson B.S. in E.E., M.S. in E.E. 1942, Massachusetts Institute of Technology Edward Arnold Satter B.S. in Eng. 1945, Brown University David Marshall Scheller B.S. in E.E. 1948, Carnegie Institute of Technology Samuel Marvin Schwartzbach A.B. 1945, The George Washington University Walter Franklin Shible A.B. 1945, Princeton University George Francis Smith A.B. 1945, The George Washington University Paul M. Southwell A.B. 1945, The George Washington University Percy Thompson, Jr. Edward Lewis Van Meter A.B. 1945, Indiana State Teachers College Carl Vernon Wendt A.B. 1947, A.M. 1949, University of South Dakota Basil Alexander Wood, Jr. A.B. 1948, University of North Carolina Dale Allen Wright B.S. 1947, Carnegie Institute of Technology Martin Jay Zuckerman	Pa. Hawaii Md. D.C. Va. N.C. Ohio D.C. Va. Va. Md. R.I. D.C. D.C. Va. Va. Md. Va. N.C. Ind. S.D. Va. Pa. D.C.
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## JURIS DOCTOR

MAY 30, 1951

Robert Bruce Hope A.B. 1945, The George Washington University Miss Mary Ann Merchant United States Merchant Marine Academy Robert Louis H. Mason A.B. 1945, Southeastern Louisiana University Miss Mildred Jacobs A.B. 1945, College of the City of New York Miss Jean Johnson A.B. 1945, College of the City of New York Miss A. E. E. 1947, Purdue University	Va. La. N.Y. S.D.	Mark Levan B.S.E. 1948, Princeton University Grace Felix Levine A.B. 1945, The George Washington University William Lawrence Mathis B.S. in M.E. 1947, Duke University Denver Lee Russell A.B. 1947, Mount Union College Bernard Stanley P.S. 1945, College of the City of New York	Ill. N.Y. Va. Ohio N.Y.
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## NOVEMBER 12, 1951

Edward Carlton Allen, Jr. B.S. 1918, United States Coast Guard Academy	Va.	Joe Louis Horne (With distinction) B.S. 1941, United States Coast Guard Academy	Ga.
Kingsdel Navarre Ayers (With distinction) B.S. 1941, United States Coast Guard Academy	Fla.	Ruloff Frederic Kip, Jr. B.S. in Eng. 1943, Princeton University	N.J.
John Reeder Bronaugh B.S. in M.E. 1947, Virginia Polytechnic Institute	D.C.	Robert Raymond Russell B.S. 1939, United States Coast Guard Academy	Mass.
Paul Gerald Dembling A.B. 1940, A.M. 1943, Rutgers University	N.J.	Lewis Tilden Steadman (With distinction) B.M.E. 1946, Syracuse University	Mich.

## FEBRUARY 22, 1952

Arnold George Gulko B.Ch.E. 1947, New York University	Va.	Jules Henry Steinberg B.S. 1948, Pennsylvania State College	N.Y.
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## MASTER OF LAWS

## MAY 30, 1951

Alva Harlan Handy B.S. in C.E. 1947, Kansas State College LL.B. 1949, Washburn Municipal University of Topeka	Kans.	Joseph Bernard Kennedy, Jr. A.B. 1947, LL.B. 1949, The George Washington University	Va.
Roy R. Banner, Jr. A.B. 1946, Marshall College A.M. 1947, University of New Mexico LL.B. 1950, Georgetown University	N.M.	Ted Eugene Killingsworth, Jr. B.M.E. 1943, Clemson College LL.B. 1949, University of Utah	Va.
Benjamin I. Barish B.S. in E.E. 1946, Illinois Institute of Technology LL.B. 1950, The George Washington University	Mich.	Joseph Homan Newlin A.B. 1943, LL.B. 1948, The George Washington University	Pa.
Rhea Morgan Burrow A.B. 1947, Transylvania College LL.B. 1947, Georgetown University	Tenn.	Harold Sterling Patton A.B. 1943, Temple University LL.B. 1947, University of Pennsylvania	D.C.
John Raymond Corridon A.B. 1948, University of Maryland LL.B. 1947, The George Washington University	Md.	Edmund Embree Pendleton, Jr. B.S. 1943, University of Pennsylvania LL.B. 1948, Georgetown University	D.C.
John Joseph Dwyer A.B. 1949, LL.B. 1950, The George Washington University	Mass.	George Cassity Pendleton B.S. 1943, University of Maryland LL.B. 1948, Georgetown University	Ohio
Kenneth Rehl Ellenberger LL.B. 1948, B.S. 1949, Ohio State University	Ohio	Ira Jack Rees A.B. 1934, Municipal University of Wichita	D.C.
Richard Walsh Fitch, Jr. A.B. 1933, Amherst College LL.B. 1940, Columbia University	Conn.	Frederick Schafer B.S. in C.E. 1925, The George Washington University	Pa.
Wilbur Lindsay Flaydie A.B. 1944, Davidson College LL.B. 1947, University of Virginia	Va.	Edward Karl Scholtz LL.B. 1950, The George Washington University	Neb.
Albert Haig Hatch A.B. 1927, University of Pennsylvania LL.B. 1933, Temple University	Pa.	Daniel Shapiro LL.B. 1950, The George Washington University	P.C.
Joseph Andrew Hill A.B. 1940, Lynchburg College LL.B. 1949, Louisiana State University	Va.	John Frank Taylor A.B. 1936, LL.B. 1939, University of Oklahoma	Okla.
Cullen Bryant Jones, Jr. A.B. 1948, LL.B. 1950, The George Washington University	S.D.	Vincent D. Travaglini LL.B. 1950, The George Washington University	Va.
Horton John Kellomäen B.S. 1949, LL.B. 1950, University of South Dakota		George Stanley Wicker A.B. 1939, Emory University LL.B. 1950, The George Washington University	S.C.
		York Lewis Wilson, Jr. B.S. LL.B. 1950, University of South Carolina	

NOVEMBER 12, 1951

William Taylor Andrews B.L.E. 1944, The George Washington University LL.B. 1949, Albany Law School	D.C.	Samuel Green A.B. 1948, LL.B. 1950, The George Washington University	D.C.
John Edward Cavanagh A.B. 1941, University of Oregon LL.B. 1949, The George Washington University	Oreg.	Selwyn Charles Jackson LL.B. 1938, Boston College of Law	Ohio

FEBRUARY 22, 1952

Rutherford Day A.B. 1947, Harvard University LL.B. 1949, Georgetown University	D.C.	Paul Herbert Rapp A.B. 1947, University of California at Los Angeles	Mo.
Ernest Van Halbeek, Jr. A.B. 1942, University of Florida LL.B. 1948, The George Washington University	Fla.	Willis Case Rowe A.B. 1948, LL.B. 1950, The George Washington University	D.C.
Robert Ivan Lanof B.S. 1942, North Carolina State College LL.B. 1946, The George Washington University	Va.	John Lewis Wickers B.S. 1940, Davidson College A.M. 1944, University of North Carolina	N.C.
John Lewis Wickers B.S. 1940, Davidson College A.M. 1944, University of North Carolina	D.C.	LL.B. 1950, The George Washington University	
Robert William Mullin, Jr. A.B. 1945, Brown College LL.B. 1948, Fordham University	Va.	Francis Woodley A.B. 1948, Pennsylvania State College LL.B. 1941, Dickinson College	Pa.

MASTER OF COMPARATIVE LAW

MAY 30, 1951

Karl Friedrich Behrendt Diploma 1949, Georg August University Göttingen, Germany	Germany	Frans Karl Krauskopf Referendar 1950, Johan Wolfgang Goethe University, Frankfurt, Germany	Germany
Joseph E. Stevens J.D. 1945, University of Vienna, Austria	D.C.		Md.

NOVEMBER 12, 1951

Robert Herman Uman LL.D. 1946, University of Vienna	D.C.	Nicholas August Vonnemann S.I.D. 1946, University of Budapest	Va.
Philippe de l'Ecole des Sciences Politiques 1948, LL.D. 1946, University of Paris	D.C.	A.B. 1948, The George Washington University	

FEBRUARY 22, 1952

Philine Rosa Lachman LL.D. 1946, University of Amsterdam	D.C.
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DOCTOR OF JURIDICAL SCIENCE

MAY 30, 1951

Jasper Silva Costa A.B. 1947, Brown University LL.B. 1941, Cornell University LL.M. 1948, Georgetown University	Mass.
Dissertation: "Rights of Employers in Inventions of Their Employees"	

# STUDENTS REGISTERED

SUMMER TERM 1951

FALL AND SPRING TERMS 1951-52

A			
Abbott, Frank LeRoy	D.C.	Andersen, Donald George	Neb.
A.B. 1949, Central College		A.B. 1942, University of Nebraska	W.Va.
Abrams, Morris Melvin	D.C.	Anderson, Earl Edward	Ohio
B.S. in C.E. 1950, University of Maryland		B.S. 1948, A.M. 1949, West Virginia University	
Abrams, Yehuda Hillel	D.C.	Anderson, Edmond Ralph, Jr.	Va.
A.B. 1951, The George Washington University		A.B. 1948, Ohio State University	Ill.
Abshire, John Patten	Tenn.	Anderson, Robert Reynolds, Jr.	S.C.
A.B. 1947, University of Chattanooga		B.S. 1941, University of Richmond	
LL.B. 1949, Vanderbilt University		Anderson, Theodore William	Ill.
Adams, Eva Bertrand	Nev.	B.S. 1948, University of Illinois	D.C.
A.B. 1948, University of Nevada		Anderson, Walker Eldon	
A.M. 1946, Columbia University		B.S. 1941, University of South Carolina	
Adams, William Rufe, Jr.	Calif.	Anderson, William Walter	
A.B. 1951, Stanford University		Andrews, William Taylor	
Addison, Francis Girault	D.C.	B.F.E. 1944, The George Washington University	
B.S. 1947, Washington and Lee University		LL.B. 1949, Union College and University	Md.
Agavoff, Theodore Daniel	Conn.	Angelaras, James George	
A.B. 1949, The George Washington University		B.C.E. 1949, The George Washington University	
Ahern, Frank Leo, Jr.	D.C.	M.S. in C.E. 1952, University of Maryland	Mich.
B.S. in M.E. 1944, Cornell University		Annis, Robert James	Wis.
Ahern, John Francis	Pa.	LL.B. 1951, The George Washington University	
B.S. 1949, Lehigh University		Ansell, Edward Orin	N.Y.
Albano, Eugene	D.C.	B.S. in E.E. 1948, University of Wisconsin	
Albright, Penrose Lucas	Kans.	Ansher, Harold	
A.B. 1949, Southwestern College		A.B. 1939, Brooklyn College	N.Y.
LL.B. 1949, The George Washington University		LL.B. 1951, The George Washington University	
Albritton, Elmer Sanford, Jr.	Calif.	Ansher, Norton	
B.S. in Ch.E. 1947, Northwestern University		B.F.E. 1949, The George Washington University	W.Va.
Alderman, Joseph	Va.	App, Oliver Leo	D.C.
LL.B. 1948, Columbia University		Applestein, David	
Alex, Faquir Nabi	Alghanistan	A.B. 1949, The George Washington University	Me.
LL.B. 1949, University of Kabul		Archer, Glenn Leroy, Jr.	N.Y.
Alexander, Charles Pykachi	Colo.	A.B. 1951, Yale University	
A.B. 1950, University of Denver		Ariss, Sidney Edgar	Ill.
Allen, Edward Carlton, Jr.	Va.	A.B. 1952, The George Washington University	
B.S. 1948, United States Coast Guard Academy		Ariss, Leonard Phillip	N.M.
Allen, Edward Clayton	Va.	Ph.D. 1950, J.D. 1952, University of Chicago	
A.B. 1949, Gettysburg College		Armstrong, Anthony Jose	N.Y.
Allen, John Edward	Fla.	A.B. 1949, A.M. 1951, University of New Mexico	D.C.
LL.B. 1950, University of Florida		Armstrong, Jack F.	Tex.
Allen, Rosa Jane	D.C.	B.S. 1946, Brooklyn College	D.C.
A.B. 1950, University of Maryland		Arner, Frederick A. Bares	Pa.
Allen, Thorvald C.	Maine	A.B. 1947, Kenyon College	
B.S. 1948, Cornell University		Arner, Robert Frederick	
Alster, Calate Jay	Ill.	Asch, Robert	
B.S. 1948, Massachusetts Institute of Technology		Asper, Edna Anne	D.C.
Ammar, George Joseph	W.Va.	A.B. 1950, University of Pittsburgh	
A.B. 1950, Morris Harvey College		Atkeson, Timothy Breed	
Amundson, Glen Loren	D.C.	A.B. 1947, Haverford College	
B.S. 1949, University of Minnesota			
Aravinos, Panagiotis George	Md.		
B.S. 1950, Georgetown University			
Anderson, Arthur	N.Y.		
A.B. 1949, New York University			



Ault, John Muller			
Austin, Robert Earl			
B.S. 1930, Pennsylvania State College			
Artell, George (Trifton)			
Ayer, Albert Wright, Jr.			
A.B. 1950, College of William and Mary			
Ayer, Kingsdel Navarre			
B.S. 1941, United States Coast Guard Academy			
Babinski, Matthew B			
B.S. 1949, Worcester Polytechnic Institute			
Bachrach, Morton Weissel			
B.S. 1947, Roanoke College			
Bacon, John William			
B.S. 1950, Cornell University			
Bailey, James Arthur			
A.B. 1950, Delfauw University			
Bair, J. Edgar			
A.B. 1950, University of Pittsburgh			
Bair, Harold Emerson			
B.S. 1952, University of Alabama			
Bair, Carl Wilfred			
B.S. 1948, Ohio State University			
Bair, James Lockhart			
B.S. 1949, University of Maryland			
Bair, Robert Clifford			
A.B. 1948, University of Minnesota			
Bair, Walton Lee			
A.B. 1949, Roy Rouse, Jr.			
A.M. 1949, Marshall College			
LL.B. 1950, University of New Mexico			
LL.M. 1951, The George Washington University			
Baker, Ruth Stone			
A.B. 1949, The George Washington University			
Baker, William Clifford			
A.B. 1949, The George Washington University			
Baker, Aaron Thomas			
B.S. 1941, Susquehanna University			
Baker, Herman Harold			
A.B. 1949, Harvard University			
Baker, Robert Dean			
B.S. 1949, University of Missouri			
Baker, Arthur Gosling			
A.B. 1949, The George Washington University			
Baker, John Michael			
A.B. 1949, The George Washington University			
Baker, Fred Herbert			
A.B. 1949, German State Real			
Baker, Alan Louis			
A.B. 1949, Czechoslovakia			
Baker, David Charles			
A.B. 1949, Pennsylvania State College			
LL.B. 1949, University of Maryland			
Baker, William			
A.B. 1949, The George Washington University			
Baker, Fred Hamilton			
A.B. 1949, Trinity College			
Baker, William			
A.B. 1949, The George Washington University			
Baker, Richard Norman			
A.B. 1949, Western Carolina Teachers			
Baker, John George			
A.B. 1949, University of Miami			
Baldwin, Robert Earl			
B.S. 1930, Pennsylvania State College			
Beard, James Ralph			
B.S. 1949, LL.B. 1951, University of Alabama			
Beard, Frederick James, Jr.			
B.S. 1947, Miami University			
Beard, Alexander Robertson			
A.B. 1947, University of Virginia			
Beardmore, Walter Harvey			
Beatty, Alan Raymond, Jr.			
Beatty, Philip Gene			
A.B. 1949, Washington University			
Belcher, Carl William			
A.B. 1948, Duke University			
Belkin, Leonard			
B.M.E. 1950, Cooper Union			
Bellin, Robert Lewis			
A.B. 1949, Norwich University			
Bennett, William Batchelder			
B.S. 1948, University of New Hampshire			
A.M. 1950, Ph.D. 1941, Louisiana State University			
Berardo, Roland Almond John			
B.S. 1949, American University			
Berg, Louella Miller			
A.B. 1950, The George Washington University			
Berg, Martin Donald			
Berger, Richard Edwin			
B.S. in E.E. 1950, University of Maryland			
Bergman, William Hunter			
Bergmann, Robert Theodore			
B.S. in E.E. 1945, University of Missouri			
Berlin, Seymour Sanford			
A.B. 1949, Western Reserve University			
Berman, Edward Bernard			
A.B. 1948, A.M. 1950, Ph.D. 1951, Harvard University			
Berman, Hyman			
A.B. 1949, The George Washington University			
Berman, Stanford Warner			
B.S. in M.E. 1950, University of Maryland			
Bernard, Eugene Louis			
A.B. 1949, Ohio State University			
Berry, Jack Alvinus			
Berry, Jack Vanarb			
B.S. in M.E. 1945, University of Arkansas			
Berry, Seymour			
A.B. 1941, The George Washington University			
Berson, Harold Ralph			
A.B. 1949, The George Washington University			
Best, Lee James			
A.B. 1949, Duke University			
Bestower, James Joseph			
B.S. 1947, LL.B. 1949, Georgetown University			
Bethel, Harold, Jr.			
B.S. 1948, Georgetown University			
Bishop, Donald Paul			
B.S. 1941, University of Colorado			
Bishop, John Edward			
A.B. 1945, LL.B. 1947, The George Washington University			
Bischoff, Otto Edward			
A.B. 1948, The George Washington University			

Blanz, James McCauley A.B. 1949, Bowdoin College	D.C.	Brastow, Jerome Duryea A.B. 1949, The George Washington University	D.C.
Blanchard, Elaine Theresa B.S. 1948, LL.B. 1950, University of Southern California	Calif.	Breen, John Patrick B.B.A. 1941, Manhattan College	N.Y.
Bleich, Noel B.M.E. 1951, College of the City of New York	N.Y.	Breher, William Russell A.B. 1948, Michigan State College M.S. 1949, University of Wisconsin	Mich.
Blizzard, William Allport B.S. 1948, West Virginia University	Md.	Breidenthal, Robert Edward B.S. 1947, Oklahoma City University	Kans.
Bloch, Robert Oakleigh A.B. 1949, The George Washington University	Nebr.	LL.B. 1949, Washburn Municipal University of Topeka	Md.
Blonies, Leonard Saul A.B. 1954, Western Reserve University	D.C.	Bremer, Frederick Godfrey B.S. 1948, University of Notre Dame	N.J.
Bloom, Jerome Philip B.S. in M.E. 1947, Wayne University	Mich.	Brenner, Joseph Frank A.B. 1944, Rutgers University	Va.
Blum, Daniel B.M.E. 1944, College of the City of New York	N.Y.	Brewster, Mary Sandford LL.B. 1950, The George Washington University	N.Y.
Blumenfeld, Isadore David B.S. 1942, Case Institute of Technology	Ohio	Bricknell, Cyril Francis LL.B. 1948, Fordham University	D.C.
Blumensopf, Norman A.B. 1941, Brooklyn College	N.Y.	Briner, Alan Anthony A.B. 1952, University of Maryland	Ga.
Bogorad, Abraham B.S.S. 1941, College of the City of New York	N.Y.	Brown, George Edgar A.B. 1948, University of Georgia	Md.
Boniver, Harold Vincent Ph.B. 1946, University of Notre Dame LL.B. 1947, Catholic University of America	D.C.	Brook, Xavier Martin, Jr. Brookell, Richard Lee B.S. in M.E. 1950, University of Maryland	Mich.
Boland, Margaret Anne A.B. 1950, Nazareth College	N.Y.	Brockmeyer, Theodore James A.B. 1951, Calvin College	D.C.
Bolinger, Howard Moore B.S. 1934, M.S. 1947, Massachusetts Institute of Technology M.B.A. 1948, Harvard University	D.C.	Bronaugh, John Reeder B.S. 1947, Virginia Polytechnic Institute	Va.
Boone, James Sanders A.B. 1935, University of California	Calif.	Brookins, Walter DeRoss, Jr. A.B. 1947, Harvard University	Va.
Borcherting, Earl William A.B. 1949, The George Washington University	D.C.	Brooks, George Granville B.S. in E.E. 1947, Virginia Polytechnic Institute	W.Va.
Borel, Paul Arnold B.S. in C.E. 1944, University of Kansas M.B.A. 1946, Harvard University A.M. 1944, Columbia University LL.B. 1951, The George Washington University	Va.	Brooks, James Fogleong A.B. 1947, Marshall College	N.Y.
Boros, Jerome Stanley A.B. 1947, A.M., LL.B. 1950, Syracuse University	N.Y.	Brooks, William L. B.S. 1951, Brooklyn College	Md.
Bostwick, Robert Edwin A.B. 1948, University of Alabama	Md.	Brown, Benjamin Franklin Brown, Donald Arthur A.B. 1949, The George Washington University	D.C.
Boyerne, Hunter Carson B.S. in E.E. 1945, B.S. in I.E. 1947, Virginia Polytechnic Institute	Va.	Brown, Peter Mho A.B. 1949, The George Washington University	N.Y.
Bowen, Arthur Lewis B.E. 1948, College of the City of New York	N.Y.	Brown, Frederick William B.S. 1948, United States Naval Academy	Mich.
Bowron, Frank Lloyd	Wyo.	Brown, Garry Edwidge A.B. 1951, Kalamazoo College	W.Va.
Bradley, Charles William Jr. B.S. 1951, Lehigh University	N.J.	Brown, James Vernal A.B. 1950, Mount Harvey College	Pa.
Bradshaw, Harold Roger B.S. 1948, University of Maryland M.S. 1951, Catholic University of America	Md.	Brown, Lester Theodore B.S. 1947, Pennsylvania State Teachers College, State College of Washington	Art.
Bradway, Malcolm Steele B.S. in M.E. 1948, Purdue University	Ind.	A.M. 1946, Ohio State University	Ohio.
Brand, Paul Joachim B.S. 1941, New York University	N.Y.	Brown, Martin John B.S. 1948, Purdue University	Wash.
		Brown, Robert Cecil A.B. 1951, Reed College	Va.
		Braz, Richard Francis Buck, George Daniel Ph.D. 1948, Xavier University	Md.
		LL.B. 1941, Georgetown University	Md.
		Brucker, William Spence F.M.L. 1941, Cornell University	Pa.
		Bruckman, Katherine Donnell A.B. 1946, Tulane University	
		Budnick, John Paul B.S. 1950, University of Pittsburgh	



Bellay, James A.B. 1950, Princeton University	Mich.	Carroll, William Herman B.S. 1947, LL.B. 1948, University of Alabama	D.C.
Benton, Elizabeth A.B. 1940, The George Washington University	D.C.	Carson, Lawrence Robert A.B. 1946, LL.B. 1950, The George Washington University	N.J.
Birk, Mary Elizabeth A.B. 1948, LL.B. 1950, Montana State University	Mont.	Casex, Irving John A.B. 1946, Brown University	N.Y.
Burns, Francis Henry A.B. 1949, The George Washington University	Pa. Va.	Casex, James Edward Casex, John Joseph	Va. Pa.
Burley, George Herbert Patrick B.S. 1946, United States Coast Guard Academy	D.C.	Cassette, Salvatore Francis A.B. 1951, San Jose State College	N.Y.
Burns, Jack Lee A.B. 1951, Whitman College	Md.	Cassidy, Dennis Edward A.B. 1950, The George Washington University	Utah
Bushnell, Richard B.S. 1948, M.E. 1948, Purdue University	Ind.	Cassidy, John Glen A.B. 1948, University of Utah	Utah
Baker, Francis Morris B.S. 1950, University of Maryland	N.Y.	Castree, Byron David A.B. 1948, University of Texas	Ark.
Baker, Herman Carl B.S. 1950, University of Maryland	Md.	M.D. 1941, Harvard University M.P.H. 1943, Johns Hopkins University	N.Y.
Baker, Roy Warden B.A. 1946, Rensselaer Polytechnic Institute	Va.	Caulfield, Donald John A.B. 1951, The George Washington University	N.Y.
Barnes, Stella Mary B.B.A. 1946, Western Reserve University	Ohio	Cavanaugh, Frederick S. B.S. 1949, American University	Mass.
Barr, Henry E. B.S. 1948, University of Rochester	D.C.	Cavanaugh, John Edward A.B. 1941, University of Oregon	D.C.
Bell, George Edgar A.B. 1951, University of Virginia	D.C.	I.I.B. 1949, The George Washington University	
C			
Cable, George Newton, Jr. B.A. 1951 A.M. 1915, University of Wisconsin	Va.	Caveny, Carolyn Frances A.B. 1951, Pennsylvania State College	D.C.
Cahoon, Alexander Dewey A.B. 1951, Harvard University	N.Y.	Carl, Fred Robert A.B. 1949, New York University	N.Y.
Calkins, William Lusk A.B. 1952, University of Maryland	Tex.	Chase, Dean William B.S. in Eng. 1951, Princeton University	N.Y.
Cameron, Anthony Ralph A.B. 1942, Pennsylvania State College	Pa.	Chamberlin, Guy Wadsworth, Jr. B.S. 1950, Washington and Lee University	D.C.
Campbell, John Paul A.B. 1951, Pennsylvania State Teachers College	Pa.	Champanne, Maurice Anthony B.S. 1947, Louisiana State University	La.
Cannell, William David A.B. 1951, Juniata College	Pa.	Champion, Marvin Ashbury B.S. 1954, Alabama Polytechnic Institute	Ala.
Carr, Bernard Lusk B.S. 1949, Cornell University	D.C.	Chapman, John Keaton A.B. 1954, University of Alabama	Miss.
Carr, Frank Michael B.S. 1950, Georgetown University	Ohio	LL.B. 1941, The George Washington University	
Carr, Joseph Thomas B.S. 1951, University of Missouri	Mo.	Chapman, Frank Morris Charles, Fredrick Isaac	D.C. Pa.
Carr, Paul Jr. A.M. 1941, A.B. 1941, Montana College	Mich.	Charles, George James A.B. 1950, University of Pennsylvania	Pa.
Carr, William A.B. 1941, Duke University		Chaves, Antonio Hamilton A.B. 1949, Radcliffe College	D.C.
Carr, William A.B. 1941, University of Maryland	D.C.	Chenault, Joe Young Chevrolet, Leslie	La. Va.
Carr, William B.B.A. 1947, University of Minnesota	Minn.	R.S. 1950, American University Chen, Gloria Reed	Va.
Carr, William A.B. 1941, United States Naval Academy	Ore.	A.B. 1944, Mount Harvey College Chen, Robert	D.C.
Carr, William A.B. 1941, Western College	S.D.	A.B. 1941, The George Washington University	
Carr, William A.B. 1941, University of Wisconsin	Calif.	Chen, Donald De Hoon A.B. 1950, University of Hawaii	Hawaii
Carr, William A.B. 1941, Ohio State University		Chen, Richard John B.S. 1941, University of Scranton	Pa.
		Chen, Louis Joseph B.S. in C.E. 1950, Purdue University	Ind.
		Chen, Jack Robert B.S. 1951, The George Washington University	Va.
		Chen, Donald B.S. 1948, University of Michigan	Md.



Christensen, Earl A.B. 1944, Montana State University	Va.	Conrad, Paul Rawson B.S. 1949, University of Kansas	Kan.
Christian, Leonard D. B.M.E. 1950, The George Washington University	Okla.	Conroy, James Joseph A.B. 1953, The George Washington University	Md.
Christiansen, Robert B.S. 1950, University of Illinois	Ill.	Conti, John William A.B. 1951, Bowdoin University	Maine
Chu, Euclid Cica, Svetozar L.L.M. 1948, University of Belgrade L.L.D. 1944, University of Rome	N.Y. D.C.	Contos, William Harry A.B. 1952, The George Washington University	D.C.
Claffy, Kathleen Helen B.E.E. 1948, University of Minnesota	D.C.	Cookerly, Ernest S. A.B. 1949, Western Maryland College	Md.
Clark, Allen Colling A.B. 1949, The George Washington University	D.C.	Costas, George Huners B.M.E. 1951, The George Washington University	N.C.
Clark, George Henry B.S. 1949, The George Washington University	Md.	Coppel, Arthur A.B. 1949, University of Virginia	N.Y.
Clark, Marjorie Ida L.L.B. 1945, A.B. 1948, The George Washington University	Ill.	Cosbin, Douglas Tenny B.S. 1951, St. Lawrence University	D.C.
Clark, Raymond Dykes B.S. 1948, University of California at Los Angeles	Va.	Covello, John Henry A.B. 1950, University of Cincinnati	Ohio
Clark, Robert Elliott, Jr. A.B. 1951, Dickinson College	Del.	Cosgrove, Paul Richard A.B. 1949, Denison University	Va.
Clarke, James Brent, Jr. Clayton, Christopher Sudlow Cochran, Robert Thomas, Jr. B.S. 1948, A.M. 1950, Georgetown University	D.C. D.C. Va.	Coulter, Alexander John B.S. 1949, United States Naval Academy	Moet.
Coffin, Charles Franklin A.B. 1951, The George Washington University	Va.	Coyne, Joseph Patrick A.B. 1949, St. Ambrose College	Md.
Cohen, Donald Sidney B.S. 1947, University of Maryland	D.C.	Cragg, William Wood B.S. in M.E. 1947, University of Kentucky	D.C.
Cohen, Saul Benjamin A.B. 1949, L.L.B. 1950, The George Washington University	D.C.	Craig, Harold Cotesworth A.B. 1951, American University	W.Va.
Cohen, Sheldon Stanley A.B. 1950, The George Washington University	Md.	Craig, Louis G. A.B. 1942, West Virginia University	Md.
Cohn, Leonard Earl A.B. 1950, The George Washington University	Md.	Craig, Paul Max, Jr. B.S. 1949, Worcester Polytechnic Institute	Md.
Cole, Arnold Harvey B.S. 1949, College of the City of New York	N.Y.	Crandall, William Palmer Craven, John Penna B.S. in C.E. 1947, Cornell University	Md.
Cole, Elmer William, Jr. A.B. 1940, L.L.B. 1942, University of North Carolina	N.C.	Crawford, Armon Davis Aheson B.S. 1949, United States Naval Academy	Md.
Colley, Benjamin Gilbert B.S. 1948, Union College and University	N.Y.	Creech, William Martin A.B. 1940, Duke University	D.C.
Collier, Edwin A.B. 1949, L.L.B. 1951, The George Washington University	N.J.	Crooks, Robert Gradden B.S. M.S. 1949, Massachusetts Institute of Technology	Idaho
Collins, Philip Reilly A.B. 1949, L.L.B. 1942, Loyola University A.M. 1948, Ph.D. 1950, Georgetown University	La.	Crouch, Robert Brighton B.S. in C.E. 1947, University of Idaho	D.C.
Comiskey, Ernest Jerome B.S. 1949, Georgetown University	Ill.	Crowell, Eldon Hubbard A.B. 1948, Princeton University	Va.
Comstock, Margaret Emil B.S. 1949, University of Maryland	Md.	Crowley, Francis Joseph B.S. 1948, Norwich University	Tenn.
Conerton, Joseph John B.F.E. 1949, Catholic University of America	Pa.	Crowley, James Worthington A.B. 1949, The George Washington University	N.C.
Connerton, Robert Joseph B.S. 1949, University of Scranton	Pa.	Crumpler, Roland Cullen, Garrett Joseph, Jr. B.S. 1949, Boston College	Mass.
Connor, William Kirkwood A.B. 1949, Brown University	Md.		

Cummins, Martin William A.B. 1951, The George Washington University	Conn.	Delasos, Lewis A.B. 1948, The George Washington University	D.C.
Cummins, William Edward B.S. in M.E. 1947, University of Colorado	Ariz.	Delaune, Georges René Doctor of Laws 1946, University of Paris	France
Curry, Bruce Quentin A.B. 1951, The George Washington University	Ala.	Demacopoulos, Constantine LL.M. 1941, University of Athens	Greece
Curtis, Allen Benjamin B.G.E. 1941, Penn College	Ohio	DeMart, Frederick Stanley A.B. 1944, University of Maryland	Md.
Cutler, Robert Franklin B.S. in Eng. 1950, LL.B. 1951, The George Washington University	Va.	Dembing, Paul Gerald A.B. 1940, A.M. 1942, Rutgers University	N.J.
Cutler, Frank Hukman B.S. 1940, Pennsylvania State Teachers College, West Chester	Pa.	Desha, John Rollin II Deshing, Harold Clarence DeVore, Philip Marshall A.B. 1947, University of Minnesota	Va. D.C. S.D.
Chapman, Stanley Thomas B.S. 1951, University of Delaware	Del.	Devlin, Paul Andrew A.B. 1951, The George Washington University	Pa.
Daly, John Joseph A.B. 1949, The George Washington University	D.C.	Dewey, John Dickson B.S. 1930, Michigan State College	Va.
Dane, Sidney Theodore A.B. 1942, New York University	Va.	Dickmeyer, John Thomas A.B. 1940, University of Massachusetts	Va.
Davis, Paul Joseph B.S. 1949, Wilkes College	Md.	Dickson, William Francis Dieter, James George B.S. 1949, Kansas State College of Agriculture and Applied Science	Va. Kans.
Davis, Edward Joseph B.S. 1949, Case Institute of Technology	Va.	Dillehay, Thomas Jefferson, Jr. B.R.A. 1927, A.M. 1929, Baylor University	Tex.
Davis, Joseph Warren B.S. 1950, Harvard University	Pa.	Dillon, Robert S. A.B. 1941, Duke University	Va.
Davis, Thomas Ira B.S. 1944, University of Pennsylvania	Pa.	Dilorenzo, Anthony John A.B. 1951, Catholic University of America	Conn.
Davis, Carl Gell B.S. 1942, Oklahoma Agricultural and Mechanical College	Okla.	Dilorenzo, Theodore John A.B. 1950, Trinity College	Conn.
Davis, Robert Russell B.S. 1949, University of Oklahoma	Tex.	Di Martino, Horace Robert DiMora, Joseph Michael A.B. 1947, Duke University	Mass. N.J.
Davis, Homer Ellis B.S. 1941, Georgetown University	Mont.	Dix, Leslie Vernon A.B. 1951, Iowa State Teachers College	Va.
Davis, Nathaniel A.B. 1942, Marietta College	Va.	Dixon, Ben Franklin III A.B. 1939, University of North Carolina	D.C.
Davis, William Chamberlain B.S. 1946, University of Maryland	N.Y.	Doddridge, Robert Russell B.S. 1940, United States Military Academy	N.Y.
Davis, George Franklin A.B. 1947, Harvard University	Md.	Dodges, John Parker A.B. 1940, Johns Hopkins University	Md.
Davis, Stewart, Jr. B.S. 1946, Georgetown University	D.C.	Doe, Norman Ross A.B. 1948, Marshall College	Mass.
Davis, Stewart, Jr. B.S. 1946, Georgetown University	D.C.	Dominguez, John Richard A.B. 1940, Brigham Young University	D.C.
Davis, Stewart, Jr. B.S. 1946, Georgetown University	Ill.	Donaldson, John Eldridge, Jr. A.B. 1949, The George Washington University	Va.
Davis, Stewart, Jr. B.S. 1946, Georgetown University	Mich.	Donnell, Richard C. Donovan, Thomas Joseph B.S. 1950, University of Connecticut	D.C. Conn.
Davis, Stewart, Jr. B.S. 1946, Georgetown University	Conn.	Dooley, Joseph Gabriel A.B. 1948, LL.B. 1951, New York University	D.C.
Davis, Stewart, Jr. B.S. 1946, Georgetown University	N.Y.	Dorman, William Stephen B.S. 1948, Worcester Polytechnic Institute	Mass.
Davis, Stewart, Jr. B.S. 1946, Georgetown University	D.C.	Dorosh, Edward Peter A.B. 1951, The George Washington University	N.Y.
Davis, Stewart, Jr. B.S. 1946, Georgetown University		Dougherty, Thomas James A.B. 1951, The George Washington University	N.D.

Dougherty, Wayne J. A.B. 1941, State University of Iowa	Iowa	Eller, Moodia M. A.B. 1949, Manhattanville College of the Sacred Heart	Md. Okla.
Doyle, James Henry, Jr. B.S. 1946, United States Naval Academy	Calif.	Elliott, Stephen Lyons A.B. 1951, Central State College, Oklahoma	D.C.
Dreifus, Jordan Albert A.B. 1949, Harvard University	Va.	Ellis, John Cole A.B. 1949, Yale University	Tex.
Drew, Roger Joseph B.S. 1948, University of Wisconsin	Wis.	Elstrand, John Grover A.B. 1950, Texas Christian University	Md.
Drummer, Saul E. B.S. 1949, The George Washington University	N.Y.	Edward, Elizabeth Anne A.B. 1949, Trinity College	Va.
Driver, William Joseph B.B.A. 1944, Niagara University	Va.	Elv, Adair Anderson A.B. 1951, University of Virginia	Calif.
Drummond, Douglas Jay B.S. 1950, University of Maryland	Md.	Emmons, Baird Ellis A.B. 1941, University of Nebraska	Va.
Duncan, Thomas Joseph M.D. 1936, The George Washington University	Md.	Engelert, Roy Theodore A.B. 1943, Vanderbilt University	D.C.
Duggan, Robert Charles B.S. 1950, University of Scranton	D.C.	Entler, David Harold I.I.B. 1951, Columbia University	Va.
Dunn, Frank Bryan Duncan, Donald Richard A.B. 1948, Ohio State University	Va. Mo.	Enzer, Thomas Henry, Jr. A.B. 1950, The George Washington University	Va.
LL.B. 1951, The George Washington University		Erickson, John Williamson B.S. in Ch.E. 1949, University of Illinois	D.C.
Dunn, Alanson Burton A.B. 1938, B.B.A. 1947, University of Texas	Tex.	Erlich, Martin A.B. 1948, Temple University	
Dunn, Dorothy A.B. 1945, University of Nebraska	Nebr.	B.S. in E.S. 1948, Drexel Institute of Technology	Ill.
Dunn, Elwood M. Donald, Jr. B.S. 1941, University of North Carolina	N.C.	Erwin, Clyde Vernon, Jr. A.B. 1950, North Central College	Va.
Dunning, Alice Langley A.B. 1943, Queens College A.M. 1944, Clark University	N.Y.	Ethington, Paul James B.S. 1949, Iowa State College of Agriculture and Mechan. Arts	Md.
Dunphy, Robert Giles Dusenbury, Richard Green A.B. 1946, University of South Carolina	R.I. S.C.	Eitenger, Robert Lee B.S. 1948, University of North Carolina	Va.
LL.B. 1951, The George Washington University		Evans, James Gilbert, Jr. A.B. 1947, University of North Carolina	Md.
Dworhak, Calvin George Dwyer, Jean Ferguson A.B. 1948, The George Washington University	Idaho Mass.	LL.B. 1950, University of Virginia	Va.
Dysart, Thomas Gilmore B.S. in M.E. 1945, University of Missouri	Mo.	Evans, Walker William B.S. 1949, Presbyterian College	Colo.
Dysland, Robert Carroll	Md.	Evans, William McCray LL.B. 1948, Harvard University	D.C.
E		Eve, Lincoln B.S. in B.A. 1948, M.B.A. 1949, University of Denver	Pa.
Eastman, Robert Emerson B.S. 1946, United States Naval Academy	Calif.	Evers, Herbert Joseph B.S. in M.I. 1947, Cooper Union	
Easton, John David B.S. 1944, United States Naval Academy	Mass.	Ewart, Donald L. A.B. 1950, University of Pittsburgh	N.Y.
Edgerston, John Durand LL.B. 1947, The George Washington University	D.C.	F	
Elfron, Resben J.D. 1941, University of Lithuania	D.C.	Fallon, Eugene Brady B.S. 1944, United States Naval Academy	N.C.
Egerton, Robert Bradley B.S. 1950, University of North Carolina	N.C.	Farmes, Robert Leo B.S. 1950, University of Miami	Md.
Einstein, Paul Myer B.S. 1950, Florida State University	Fla.	Farnes, Wallace Dawson A.B. 1951, Idaho State College	Md.
Eisler, Edna Mae Louise A.B. 1947, Trinity College	Fla.	Farquhar, Gordon Nesbitt A.B. 1948, Yale University	Tex.
		Faubion, Urban Hart B.S. in E.E. 1948, University of Texas	N.I.
		Fay, Richard Joseph A.B. 1951, College of the Holy Cross	Va.
		Feld, Frances Elizabeth A.B. 1950, Texas Christian University	



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Gass, Edmund Cody A.B. 1937, Carson-Newman College A.M. 1944, University of Tennessee	Tenn.	Goldberg, Charles Herbert A.B. 1951, The George Washington University	D.C.
Gandet, Richard Austin B.S. in M.E. 1947, University of Rochester	Mass.	Goldenberg, Melvin Myron B.S. in M.E. 1949, Catholic University of America	D.C.
Gaudio, Anthony Carl B.S. 1954, University of Wisconsin	N.Y.	Goldman, Sherman H. B.S. in M.E. 1948, Northeastern University	Mass.
Gaus, William Carl A.B. 1945, Bucknell University	Va.	Goldstein, William Oslor B.S. 1949, West Newton College	Md.
Gaynor, James Kenneth B.S. 1946, J.D. 1950, Indiana University	Ind.	Goodman, Sanford Gerald A.B. 1950, The George Washington University	N.Y.
Gelb, Joseph Donald B.S. 1950, University of Scranton	Pa.	Goshon, Luke Barrett A.B., B.S. 1947, University of Oklahoma	Okla.
Gellman, Aaron Jacob A.B. 1950, University of Virginia M.B.A. 1951, University of Chicago	Va.	Gordon, Albert B.M.E. 1944, College of the City of New York	Va.
Generally, Richard Fleury B.S. 1950, University of Alabama	D.C.	Gordon, Coleman B.S. 1949, Georgetown University	Ill.
George, Joseph Homan Gerard, Richard B.S. 1949, Kansas State College	Mass. Mo.	Gordon, Herman Jacob B.S. in E.E. 1948, Purdue University	Va.
Gerb, Bernard B.S. in E.E. 1950, Cornell University	N.Y.	Gore, John William A.B. 1947, The George Washington University	Neb.
Gerhardt, Robert Bernard B.S. in M.E. 1947, Northwestern University	Md.	Gotobed, Kenneth Samuel A.B. 1951, The George Washington University	N.Y.
German, John William, Jr. B.S. 1949, Rose Polytechnic Institute	Ind.	Graham, Robert May B.S. 1950, American University	N.Y.
Ghirzoni, Audrey Constance A.B. 1948, Catholic University of America	Pa.	Grabbick, Paul Philip A.B. 1949, Brooklyn College	N.M.
Ghirzoni, John Felix B.S. 1948, University of Pennsylvania LL.B. 1949, Catholic University of America	Pa.	Grammer, David Allen, Jr. LL.B. 1947, University of Texas	Ala.
Gibbs, Robert Stewart LL.B. 1951, The George Washington University	Va.	Granberry, William Martin B.L.E. 1949, Georgia Institute of Technology	Mass.
Gibson, Rufus MacDougal LL.B. 1949, University of Missouri B.S.L. 1948, St. Paul College of Law LL.M. 1950, The George Washington University	Mo.	Grant, David Franklin B.S. 1949, University of Vermont	Md.
Gilbert, Stanley Ormand Gillette, Kirby Marvin A.B. 1951, University of Michigan LL.B. 1951, Wayne University	D.C. D.C.	Gratchewski, Virginia Louise A.B. 1951, The George Washington University	Vt.
Gilmartin, Thomas Aloysius A.B. 1954, Catholic University of America	Va.	Graves, Arthur Leslie A.B. 1947, Norwich University	Mo.
Gilmore, Edward Lee A.B. 1949, West Virginia University	W.Va.	Gray, John Alexander A.B. 1951, Dartmouth College	D.C.
Gilmore, Francis John A.B. 1951, Georgetown University	D.C.	Green, Robert Abraham A.B. 1947, Clark University	D.C.
Ginsburg, Diana Louise A.B. 1951, Swarthmore College	Md.	Green, Samuel A.B. 1948, LL.B. 1950, The George Washington University	Md.
Gittens, Thomas Morton, Jr. LL.B. 1951, The George Washington University	D.C.	Greene, Harold Herman A.B. 1950, University of Tennessee	D.C.
Glass, Elza Dek A.B. 1946, The George Washington University	D.C.	Greenlake, Frederic Thomas A.B. 1948, Harvard University	D.C.
Glenn, Jean-Clare A.B. 1951, Duke University	D.C.	Greet, Kenneth Edmondson B.S. 1949, Michigan State College	N.Y.
Goertel, Elmar Praeger A.B. 1951, Duke University	D.C.	Greer, Thomas Jefferson, Jr. B.S. in Eng. 1948, The George Washington University	N.Y.
Goldberg, Alvin Irving B.S. 1944, Boston University	D.C.	Gregg, John Gerald B.S. 1944, J.D. 1946, New York University	Me.
		Gregory, Luther Weston B.S. in E.E. 1949, Agricultural and Mechanical College of Texas LL.B. 1950, University of Maryland	

# The Law School

59

Grey, William Jackson B.S. 1949, University of Maryland	D.C.	Hartman, Robert Emmett B.S. in E.E. 1951, University of Maryland	Md.
Gubin, Alfred Wilson, Jr. A.B. 1951, University of North Carolina	N.C.	Hartnell, Sammy Louis Harrigan, John Francis B.S. 1941, Tulane College	N.M. Va.
Gumen, John Francis Griswold, Lyman William, Jr. A.B. 1942, Colgate University	Va.	Harrington, Donald Joseph B.S. 1946, University of Michigan	Mich.
Grobman, William B.S. in E.E. 1944, Rutgers University	Mass.	LL.B. 1951, University of Detroit	
Gross, Edward George B.S. 1941, MS. 1951, Purdue University	N.J.	Harris, Dorothy Hope A.B. 1946, Goucher College	D.C.
Dr. de Univ. 1950, University of Louisiana, France	Ind.	Harris, Elmore D. B.S. in E.E. 1933, West Virginia University	Pa.
Gunning, Albert John Gunter, Louis Ernesto J.D. 1945, University of El Salvador	Pa. D.C.	Harrison, Gordon Francis Ph.B. 1915, Providence College	R.I.
Gutierrez, Richard Ivan B.S. 1944, United States Naval Academy	N.J.	LL.B. 1941, Georgetown University	
Gutierrez, Arnold George B.S. in E.E. 1947, New York University	Va.	Harrison, Marion E. Lays II A.B. 1951, University of Virginia	Va.
Gutierrez, John Joseph A.B. 1947, University of Kansas	Md.	Harris, George Latham B.S. 1937, United States Naval Academy	Md.
Gutierrez, William Joseph, Jr.	Mass.	Harshbarger, Sam Ross A.B. 1946, West Virginia University	W.Va.
H		Hart, Charles William A.B. 1934, A.M. 1936, Catholic University of America	D.C.
Haber, Thomas Benjamin B.S. 1946, Massachusetts Institute of Technology	Md.	LL.B. 1939, Georgetown University	Calif.
Hadden, David Isadore A.B. 1944, The George Washington University	D.C. Conn.	Hart, Frank Edmund B.S. 1945, University of San Francisco	Ind. N.C.
Hagan, James Ray B.S. 1946, West Virginia University	W.Va.	Hawes, William M. Rae A.B. 1942, University of North Carolina	Ark.
Hagan, Ernest Van, Jr. A.B. 1942, University of Florida	Fla.	Hays, Martin Steele A.B. 1948, University of Arkansas	Md.
Hahn, John A.B. 1945, The George Washington University	Fla.	Hear, Harry Watson B.S. in M.E. 1942, Pennsylvania State College	Idaho
Hahn, Glenn Frederick A.B. 1945, University of Wisconsin	Colo.	Hear, Ruden, Willson A.B. 1933, University of Idaho	Va.
Hahn, Carl Key A.B. 1947, Northern Methodist University	Va.	Hear, James Clark A.B. 1936, University of Tennessee	Md.
Hahn, Allen Vance A.B. 1940, Ball State Teachers College	Ky. Ind.	Hear, Irving Mark B.P.A. 1947, College of the City of New York	Pa.
Hahn, Francis Raymond, Jr. A.B. 1945, University of Rochester	N.Y.	Heck, John Henry A.B. 1941, Pennsylvania State College	Md.
Hahn, Thomas Milton A.B. 1945, University of Pittsburgh	Va.	A.M. 1951, The George Washington University	Mass.
Hahn, John Louis A.B. 1945, Baylor University	Calif.	Heckert, Jackson Shuler B.S. 1947, Pennsylvania State College	Pa.
Hahn, Charles Campbell A.B. 1945, University of Colorado	Colo.	Hedger, William Edwidge B.S. 1941, Tulane College	Mo.
Hahn, Walter Henry A.B. 1945, University of Maryland	N.Y.	Heger, John Henry A.B. 1915, Georgetown College	
Hahn, Roger Elmer A.B. 1945, University of Idaho	Va.	M.D. 1943, Hahnemann Medical College	
Hahn, John Howard A.B. 1945, University of Idaho	D.C.	Henderson, LeRoy Kenneth B.S. 1941, United States Naval Academy	
Hahn, Walter Daniel A.B. 1945, The George Washington University	Idaho	Hender, George Charles, Jr. B.S. 1950, University of Maryland	Md.
Hahn, John Webster A.B. 1945, University of North Carolina	Md.	Heller, Norman Harold A.B. 1945, The George Washington University	Md.
		Hellmuth, James Grant B.S. 1948, Yale University	Va.
		Hellstrom, Ralph Edwin A.B. 1948, Augustana College and Theological Seminary	Ill.
		Hemphill, John Bluster B.S. 1942, University of Virginia	W.Va.



Henderson, Frances Anne	N.Y.	Hollimon, Blaine Speights, Jr.	Ten.
A.B. 1937, Howard College		LL.B. 1938, The George Washington University	
Hendrix, Paul Max	Ill.	Holbourn, Farrell	Idaho
A.B. 1938, The George Washington University		B.S. 1942, Utah State Agricultural College	N.Y.
Henary, Thomas Joseph	D.C.	Holmes, Paul Roger	Va.
A.B. 1931, The George Washington University		B.M.E. 1939, Rensselaer Polytechnic Institute	
Heneveld, Lloyd Allen	Mich.	Holmes, Ralph Albion, Jr.	
B.S. in L.E. 1950, University of Michigan		B.S. 1947, University of Maryland	Va.
Hennrich, Charles Edward	Va.	J.L.B. 1938, University of Virginia	
Hennrich, David Howard	W.Va.	Holt, Arnold	Hawaii
A.B. 1949, The George Washington University		A.B. 1931, University of Virginia	
B.S. 1951, United States Merchant Marine Academy		Holt, George Panlet	D.C.
Herr, Morton Goodell	Maine	A.B. 1949, University of Hawaii	
A.B. 1935, Bowdoin College		Holtz, Herbert Emanuel	Va.
Hess, R. L. Eugene	D.C.	A.B. 1949, The George Washington University	Ind.
A.B. 1932, University of Maryland		Honabach, Elmer Wilson	
Hess, Robert Nott, Jr.	D.C.	Hoover, James Edward	Va.
A.B. 1945, The George Washington University		B.S. in Eng. 1949, M.S. 1950, Purdue University	
Henson, Lucinda Theresa	D.C.	Hope, Robert Stocks	Ill.
B.S. 1938, Wilson Teachers College		A.B. 1939, I.D. 1951, The George Washington University	
Hermann, Russell Rayden	Alaska	Horn, Martin Joseph	D.C.
A.B. 1949, State College of Washington		B.B.A. 1949, M.B.A. 1947, University of Michigan	
Herring, Donald Dewar	Mass.	Horne, Joe Louis	Va.
A.B. 1949, The George Washington University		B.S. 1941, United States Coast Guard Academy	
Hess Lawrence Eugene, Jr.	Pa.	Horsky, Eugene Gregory	Ill.
B.S. 1946, United States Naval Academy		B.S. 1948, B.C.E. 1950, Rensselaer Polytechnic Institute	
Hewitt, Norma Jean	Va.	Hornitz, John Karl	Va.
A.B. 1951, The George Washington University		A.B. 1948, A.M. 1949, University of Illinois	
Heyward, Francis Dewey	N.C.	Huffman, Paul Douglas	Md.
A.B. 1938, University of North Carolina		A.B. 1947, Duke University	
Hildebert, Richard	D.C.	Hughes, Harry Ros	N.Y.
A.B. 1931, The George Washington University		B.S. 1949, University of Maryland	Kans.
Hill, Donald Peck	Va.	Hughes, Michael Vincent	
B.S. 1946, Davidson College		Hughes, Oliver Henry	Ohio
LL.B. 1948, LL.M. 1950, University of Virginia		B.S. 1943, LL.B. 1947, University of Kansas	
Hill, Richard Work	Va.	Hughes, Robert Bruce	Ohio
Hill, William	Md.	A.B. 1948, University of Cincinnati	
B.F.E. 1949, The George Washington University		Hughes, William Malcolm	Va.
Hix, James Theodore	Va.	A.B. 1949, The George Washington University	
B.M.E. 1944, The George Washington University		Hull, Monte Isaac	Pa.
Hobson, Robert Douglas	D.C.	A.B. 1942, Southwestern University	
Hobson, Donald Eugene	Wyo.	A.M. 1946, The George Washington University	
B.S. 1948, United States Naval Academy		Humes, Theodore Leon	Utah
Holbrook, Cynthia Gould	Ariz.	A.B. 1948, University of Pittsburgh	
A.B. 1947, Stanford University		Hurd, John Prewett	D.C.
Holmberg, William Cedric	Va.	A.B. 1950, Westminster College	
A.B. 1947, The George Washington University		Hurley, John James	N.M.
Holmes, Frank Joseph	Pa.	A.B. 1946, The George Washington University	
A.B. 1949, M. S. Goldberg College		Hurley, Wilson Patrick	Ala.
Holmes, Donald Lloyd	Va.	B.S. 1945, United States Military Academy	
A.B. 1946, University of Virginia		Hurt, Mary Texas	Wash.
Holgate, Thomas Abee	Vt.	A.B. 1949, The George Washington University	
A.B. 1947, Suffolk University		Hutchinson, Alan Stanton	D.C.
A.M. 1950, Boston College		B.S. 1948, St. Martin's College	
Holler, Norbert Philip	N.Y.	Hutchinson, George Edward	
B.S. 1951, College of the City of New York		A.B. 1951, The George Washington University	

Hyde Edward Richard B.S. in E.E. 1948, Purdue University	N.Y.	Johnson, Lee Farnum, Jr. A.B. 1951, University of Colorado	Va
I		Johnson, Marshall Peyton B.S. 1951, University of Maryland	Md
Iacomi David Takeshi A.B. 1949, The George Washington University	Hawaii	Johnson, Newell Duane A.B. 1951, Maryland College	Iowa
Iacomi Daniel Ken A.B. 1950, University of Hawaii	Hawaii	Jones, Benjamin Perry, Jr. A.B. 1950, The George Washington University	N.C.
Jane, Eleanor Hand A.B. 1952, The George Washington University	N.Y.	Jones, Calvin Clark Jones, Douglas Johnson A.B. 1951, Duke University	Va. N.C.
J		Jones, Gary V. B.S. 1950, University of North Carolina	D.C.
Jones Arthur Dale A.B. 1949, Texas Technological College	D.C.	Jones, George Jerome A.B. 1951, University of Oklahoma	Okla.
Jones, Arthur, Jr. B.S. in M.E. 1950, Virginia Polytechnic Institute	Va	Jones, James Marshall B.S. 1947, University of Scranton	D.C. Pa.
Jones, Frank Hollbrook B.S. 1950, University of Maryland	Md	Josephson, Edward Samuel Ph.D. 1950, Massachusetts Institute of Technology	Md
Jones, Nelson Charles A.B. 1948, Boston College	Ohio	Junkins, Ernest Miller B.S. in M.E. 1950, University of New Hampshire	N.H.
Jones, Paul A.B. 1948, College of the City of New York	N.Y.	Junkins, Philip Dexter B.S. in M.E. 1951, Ohio State University	D.C.
Jones, Robert A.B. 1949, Johns Hopkins University	Va	Jwaideh, Zuhair Elias L.L.B. 1954, Iraq Law College, Baghdad	Iraq
Jones, Ronald A.B. 1949, Pennsylvania State University	Pa.	K	
Jones, Thomas A.B. 1949, Indiana University	Mass.	Kabardin, Neil Bernard B.S. 1950, University of Scranton	Pa.
Jones, Clark University	Md.	Kahn, Kalvin A.B. 1948, University of Pennsylvania	Pa.
Jones, University of Maryland	R.I.	Kalvin, Paul Craig A.B. 1949, The George Washington University	Va
Jones, Rhode Island	Conn.	Kanaski, Robert Joseph B.S. 1950, University of Scranton	Pa.
Jones, Michael A.B. 1947, University of Connecticut	D.C.	Katzenbach, Stephen A.B. 1949, University of Hawaii	Hawaii
Jones, Adam A.B. 1949, The George Washington University	Pa.	Kaplan, Jack Solomon A.B. 1946, L.L.B. 1948, New York University	D.C.
Jones, Francis A.B. 1949, The George Washington University	Conn.	Kaplan, Morris A.B. 1949, University of Michigan	Md
Jones, Leonard Albert A.B. 1949, University of Connecticut	Pa.	Kaplan, Norman B.S. 1949, Indiana College	Mo
Jones, Joseph A.B. 1949, The George Washington University	Ind	Katz, Martin Henry B.S. in E.E. 1947, New York University	Va
Jones, Lawrence A.B. 1949, Evansville College	Iowa	Katzenbach, Jesse William Katzenbach, Julius Joseph B.S. 1947, Pennsylvania Military College	D.C. Mass.
Jones, Mary Lou, Jr. A.B. 1949, Yale University	N.J.	Katon, Irving A.B. 1947, University of Michigan	Mich
Jones, University of Prague	D.C.	Katz, M. 1949 B.C.L. 1947, College of the City of New York	N.Y.
Jones, State College	Idaho	Katz, Norman Harold B.S. 1949, University of Maryland	Md
Jones, L.B. 1929, University	Va.	Kaufman, Rae Ann A.B. 1949, Texas State College for Women	Tex
Jones, The George Washington University	Md	Kaye, Alfred Howard A.B. 1951, The George Washington University	N.J.
Jones, Pennsylvania State College	N.Y.		

Kearney William Robert	Mich.	Kirkley, William Joseph	Va
Keels, Myrtis Merritt	D.C.	B.S. 1946, United States Coast Guard Academy	N.I.
B.S. 1925, Washthrop College		Kivitz, Murray Abraham	Ohio
M.S. 1944, University of Tennessee	Pa.	B.S. 1949, New York University	
Keeney, John Christopher		Kleiman, Ansel	D.C.
B.S. 1947, University of Scranton		Klein, David Joel	Va.
LL.B. 1947, Dickinson College	Md.	B.C.E. 1942, Cooper Union	Pa.
Keefer, Ray Edward		Kletter, David	
A.B. 1946, Miami University	Pa.	Kline, Ralph Henry	
Kelmer, George Francis	Va.	A.B. 1954, The George Washington University	Va.
B.S. 1949, College of the Holy Cross		Kline, Robert Charles	Colo.
Keller, Philip William		B.S. 1951, Pennsylvania State College	
A.B. 1935, College of the Holy Cross		Klippel, Mary Jane	
LL.B. 1940, The George Washington University	D.C.	A.B. 1946, The George Washington University	N.D.
Kelley, David Philip		Knapp, Robert Clinton	
B.S. 1949, Lehigh University	Tex.	B.S. 1941, United States Naval Academy	N.Y.
Kelly, Dee J.	Ill.	Knapp, Edna	Md.
A.B. 1950, Texas Christian University		A.B. 1941, Brooklyn College	
Kelly, Frances Anne	Pa.	Knotts, James Owen III	D.C.
A.B. 1944, University of Chicago		A.B. 1950, University of Maryland	
Kelly, Joseph John	Pa.	Knowles, Myles Henry	Md.
B.S. 1947, Ohio State University		A.B. 1949, Michigan State College	
Kelly, Paul Edward	Md.	Knox, Robert, Jr.	
B.S. 1946, University of Scranton		A.B. 1946, University of Pennsylvania	Va.
Kenkel, John Bonaventure	Tex.	LL.B. 1950, Temple University	
A.B. 1949, Colgate University	N.Y.	Knudson, Alvin B. C.	Pa.
Kennedy, Harold Grant		M.D. 1949, University of Minnesota	
Kenny, Raymond Joseph	Wash.	Kominski, John	Bulgaria
B.S. 1950, University of Oklahoma		B.S. 1950, Pennsylvania State College	
Kerr, Alex Arthur	Ind.	Konakshusky, Kval Waselef	Ohio
B.S. 1944, United States Naval Academy		Doctor of Political Science 1947, University of Innsbruck	
Kerr, Melvyn Herbert	Va.	Konold, William George	N.Y.
B.S. 1941, Indiana University		B.E.E. 1949, Cornell University	
Kerwan, Thomas John	Pa.	Korpeck, Jerome Ph.	Va.
B.S. 1947, Pennsylvania State Teachers College, Middletown		A.B. 1947, University of Rochester	
A.M. 1949, The George Washington University	Pa.	B.S. in M.E. 1942, Rhode Island State College	Pa.
Keyser, Arthur Seymour		Koussios, Harry George	D.C.
B.S. 1941, University of Pennsylvania		B.S. 1950, Albion College	
Kidner, Herbert Miller	Pa.	Konstantinos, Peter Danvoss	
A.B. 1926, Harvard University		B.C.F. 1948, The George Washington University	Va.
LL.B. 1926, University of Pittsburgh	Nebr.	Kraft, Max Simon	
Kiesel, Walter, Jr.		B.S. 1950, University of Maryland	Md.
A.B. 1941, University of Nebraska		Krant, Jerome	
LL.B. 1946, Yale University	D.C.	A.B. 1942, University of Chicago	
LL.M. 1950, The George Washington University		B.S. in E.E. 1947, University of Illinois	D.C.
Kilgore, Robert Martin	Ohio	Kree, Louis Francis, Jr.	Pa.
B.S. 1947, Georgetown University		B.S. 1948, Massachusetts Institute of Technology	
Kelmy, Oliver B.	Hawaii	Krein, Arthur Nicholas	Ill.
B.S. 1947, Yale University		B.S. 1947, Case Institute of Technology	
Kim, Alexander Young Ha	Ill.	Krol, Casimir Thaddeus	N.Y.
A.B. 1949, University of Hawaii		A.B. 1947, St. John's College	Mont.
Kinderman, Eugene John	Md.	Kudvash, Morton	
B.S. 1947, University of Illinois		Kuhl, Arthur M.	Md.
Kindness, Gordon Robertson	D.C.	A.B. 1952, The George Washington University	Md.
A.B. 1940, University of Maryland		Kulla, Abraham Lincoln	
Kindness, Thomas N.	Ohio	Kuchner, Alvin Julian	
A.B. 1951, University of Maryland		A.B. 1951, University of Maryland	D.C.
King, Ruth Evelyn	D.C.		
B.S. 1941, LL.B. 1945, University of South Dakota			
King, William Allen	N.J.		
A.B. 1951, University of Maryland			
Kip, R. Fred Frederick, Jr.	Va.		
B.S. in Eng. 1944, Princeton University			
Kipps, Clarence Foster, Jr.			
B.S. 1951, American University			



Lafayette, Edward John			
Lafayette, Wenceslao Rancap	Calif.	Lehnert, Robert Conrad	N.Y.
B.S. 1914, Far Eastern University	Philippines	Lelewich, Joseph John	Md.
L.L.B. 1951, Manuel Luis Quezon		B.S. 1941, Pennsylvania State College	
College		Leo, Albert Louis, Jr.	D.C.
Lalor, Robert Ivan		A.B. 1948, Catholic University of	
B.S. 1939, North Carolina State	Va.	America	
College		Leslie, Charles Walton, Jr.	N.C.
L.L.B. 1940, The George Washington		A.B. 1951, The George Washington	
University		University	
Lama, Charles Peter	N.Y.	Lessey, Samuel Kenric	D.C.
B.S. 1945, Georgetown University		B.S. 1945, United States Military	
Lambert, Van Dusen Summs	D.C.	Academy	
M.D. 1930, Georgetown University		L.L.B. 1951, Harvard University	N.Y.
Law, Ernest Henry	Ill.	Lester, Edwin	
A.B. 1940, Illinois College		B.E. 1940, Rensselaer Polytechnic	
Lambert, Robert Samuel	Va.	Institute	
A.B. 1941, The George Washington		Levine, Alfred Bernard	N.Y.
University		B.S. in E.E. 1940, Cornell University	
Lambert, David William	Ill.	M.E.E. 1940, Rensselaer Polytechnic	
B.S. 1938, University of Illinois		Institute	
L.L.B. 1941, Georgetown University		Levine, Herbert	D.C.
Lambert, Geoffrey J.	D.C.	B.S. 1947, Brooklyn College	
A.B. 1940, L.L.B. 1942, Harvard		Levine, Irving Seth	N.Y.
University		B.S. 1941, M.S. 1941, Massachusetts	
A.B. 1940, The George Washington	D.C.	Institute of Technology	
University		Levinson, Joseph	Ill.
Lambert, John Eldridge	D.C.	B.S. in E.E. 1940, University of	
B.S. 1942, Princeton University	Mich.	Illinois	
A.B. 1947, University of Michigan		Levinson, Lawrence Stanley	N.Y.
Lambert, Richard Bruce	Md.	B.S. 1948, Rutgers University	
B.S. 1940, University of San Francisco	D.C.	A.M. 1948, Columbia University	
Lambert, Richard Thomas	N.Y.	Levitan, Simon Wolfe	D.C.
B.S. 1940, University of Notre Dame		B.S. in Eng. 1940, University of	
Lambert, David Peter	D.C.	Pennsylvania	
L.M.B. 1940, Clarkson College of	Va.	Levy, Harry	N.J.
Technology		B.S. in M.E. 1936, New York University	
Lambert, James F.	N.C.	M.S. 1940, Stevens Institute of	
B.S. 1941, University of North		Technology	
Carolina		Lewis, George Allan	Pa.
Lambert, John Craig	Md.	A.B. 1930, Wilkes College	
B.S. 1940, United States Naval		L. Thomas Lee, Samuel Joseph	D.C.
Academy		B.S. 1940, University of Maryland	
Lambert, Simon S., Jr.	N.C.	L.L.B. 1941, The George Washington	
B.S. 1940, University of North		University	
Carolina		Lilly, Edward Kelway	D.C.
Lambert, James, Jr.	D.C.	A.B. 1941, Pennsylvania College	
B.S. 1940, Dartmouth College		Liberato, Vincent Quigley	Md.
Lambert, Robert, Jr.	D.C.	A.B. 1940, University of Maryland	
B.S. 1940, University of Maryland		Liberato, Cyril Jean	D.C.
Lambert, John Lewis	D.C.	A.B. 1930, The George Washington	
B.S. 1940, University of Maryland		University	
Lambert, John Lewis	D.C.	Lieberman, Gerald Louis	Va.
B.S. 1940, University of Maryland		A.B. 1930, Yale University	
Lambert, John Lewis	D.C.	Lieberman, Loren Blaine	Idaho
B.S. 1940, University of Maryland		B.S. 1948, University of Idaho	
Lambert, John Lewis	D.C.	Lieberman, Eric	D.C.
B.S. 1940, University of Maryland		A.B. 1940, University of Rochester	
Lambert, John Lewis	D.C.	Lieberman, Howard Lee	D.C.
B.S. 1940, University of Maryland		B.C.E. 1940, Catholic University of	
Lambert, John Lewis	D.C.	America	
B.S. 1940, University of Maryland		M.S. in C.E. 1941, Georgia Institute	
Lambert, John Lewis	D.C.	of Technology	
B.S. 1940, University of Maryland		Lippert, Raymond Franklin	D.C.
Lambert, John Lewis	D.C.	B.M.E. 1940, The George Washington	
B.S. 1940, University of Maryland		University	
Lambert, John Lewis	D.C.	Lippert, Thomas Perry	D.C.
B.S. 1940, University of Maryland		Lipsky, Harold	N.J.
Lambert, John Lewis	D.C.	A.B. 1940, New York University	
B.S. 1940, University of Maryland		L.L.B. 1941, The George Washington	
Lambert, John Lewis	D.C.	University	
B.S. 1940, University of Maryland		Lipsky, Emanuel Herbert	Ohio
Lambert, John Lewis	D.C.	B.S. 1940, Ohio State University	
B.S. 1940, University of Maryland			

Lockhart, Elizabeth Berkeley	Va.	MacSporran, John Samuel	Md.
A.B. 1927, College of William and Mary		A.B. 1940, Yale University	Ga.
Loesberg, Alan S.	D.C.	Maddox, James Dickson	Va.
B.S. 1950, Georgetown University		A.B. 1942, University of Georgia	
Lonas, Leonard Luther, Jr.	Va.	L.L.B. 1947, University of Michigan	D.C.
B.S. 1947, Virginia Military Institute		Mace, Robert Henry	
London, Louise	Va.	A.B. 1951, The George Washington University	N.Y.
A.B. 1947, Vassar College		Maggi, Pasquale John	N.Y.
Long, Patrick J.	N.Y.	B.S. 1950, Georgetown University	
L.L.B. 1930, L.L.M. 1933, St. John's University		Maher, Stanton Bernard	N.Y.
Longley, Frank Alan	N.Y.	A.B. 1950, Syracuse University	Pa.
B.E.E. 1951, Cornell University		Malchman, Jenny	
Losche, Herold Homer	Ind.	A.B. 1947, Smith College	Va.
A.B. 1925, Hanover College		Malmehak, Nicholas	
Lourie, Leonard Levy	Ohio	A.B. 1949, University of Pittsburgh	W.Va.
A.B. 1942, Miami University		Malone, William Grady	Pa.
Love, James William	Pa.	B.S. 1941, Louisiana State University	
Love, James William	D.C.	Mamush, Julia	N.C.
B.A.E. 1950, Catholic University of America		Marbeck, Harry Frederick, Jr.	
Lovercheck, Charles Lester	Va.	B.S. in E.E. 1949, Lehigh University	D.C.
B.S. 1942, Iowa State College of Agriculture and Mechanic Arts		Mann, Clyde Robinson	
L.L.B. 1951, Georgetown University		B.S. 1942, East Carolina Teachers College	S.C.
Low, Robert Allen	N.Y.	Mann, Donegan	
A.B. 1941, Stanford University		A.B. 1947, L.L.B. 1950, The George Washington University	N.J.
Lowman, David Daniel	Va.	Manning, Samuel Phillips	
A.B. 1949, Stanford University		A.B. 1949, University of North Carolina	D.C.
Luboshez, Sergius N. Fernis	Md.	Marchison, Andrew	
B.S.C. 1948, University of London		B.S. 1950, Georgetown University	N.Y.
Lucy, Robert Meredith	Mo.	Markham, James Edward, Jr.	Ohio
B.S. 1947, United States Naval Academy		A.B. 1946, L.L.B. 1949, Georgetown University	
Lund, Theodore J.	Md.	Marmore, Alfred Charles	
B.M.E. 1948, College of the City of New York		March, Benjamin Franklin	Md.
Lundberg, Rolf T.	Norway	A.B. 1950, Ohio Wesleyan University	
L.L.M. 1947, University of Oslo		Marsh, Samuel Dennis	Ind.
Lundgren, Henry Willard	Wash.	A.B. 1948, Yale University	
Lundquist, George Arthur	Md.	Incease 1950, University of Geneva	W.Va.
B.S. 1948, University of Maryland		Marshall, Charles Clifford	
Luther, Elmer Eugene	Mo.	B.S. 1949, Purdue University	N.Y.
A.B. 1949, The George Washington University		Marshall, Charles Lauce, Jr.	
Lutz, Robert Blair	Pa.	B.S. in E.E. 1940, Purdue University	
A.B. 1949, Dickinson College		Marshall, Edwin Hayward	Md.
Lyle, Robert Eugene	Minn.	M.E. 1953, Rensselaer Polytechnic Institute	D.C.
A.B. 1950, The George Washington University		Martin, Daniel Walter	
Lynch, John William	Md.	Martin, Harry Robert	Md.
Lynn, South Trumble	D.C.	A.B. 1946, University of Puerto Rico	
B.S. 1952, University of Maryland		Martin, Leyland Myers	D.C.
		B.S. 1934, University of Arkansas	
		Martin, Robert William	Ill.
		A.B. 1949, Southwest Missouri State College	
		Martin, Thomas Archie	Va.
		A.B. 1940, The George Washington University	
		Masiello, Joseph Alvin	Pa.
		B.S. in Eng. 1950, The George Washington University	
		Mathias, Richard Brinham	Va.
		Matthews, Patrick Cabell	D.C.
		B.S. 1944, University of Virginia	
		Mattson, Arthur Richard	
		A.B. 1950, The George Washington University	Calif.
		Maspin, James Carey	Pa.
		Mawer, George Joseph	

Mayer, Robert Charles B.S. 1943, United States Merchant Marine Academy	D.C.	McLaughlin, Edward Bruce B.S. 1943, Georgetown University	D.C.
Mayer, Louis Francis B.S. 1948, Georgetown University	Md	McLean, Charles Graham A.B. 1948, The George Washington University	N.C.
Mayer, Robert B.S. 1942, Louisiana State University	Va.	McLees, John Skelton McLennan, William Stuart	Ark. D.C.
Mayer, R. David, Jr. B.S. 1941, Georgia Polytechnic Institute	Tenn.	B.S. 1947, University of Oregon	D.C.
Mayer, Helen Mary B.S. 1942, Rogers College	Mass.	McMahon, John Benjamin B.S. 1951, William Teachers College	D.C.
Mayer, Stephen John B.S. 1949, The George Washington University	Pa.	M. Nally, John Joseph B.S. 1942, LL.B. 1951, University of Denver	Colo.
Mayer, John Penfield B.S. 1942, Rogers College	Md	McNew, Ernest Kelley McPeak, Charles John	Tenn. N.Y.
Mayer, William Benjamin B.S. 1942, University of Pennsylvania	D.C.	A.B. 1948, St. John's University	
Mayer, John Joseph B.S. 1941, University of Maryland	D.C.	M. Rae, John Edwin B.C.E. 1947, University of Detroit	Mich.
Mayer, Marvin Vincent B.S. 1941, University of Akron	Ohio	McSaul, Charles Fred A.B. 1949, A.M. 1950, The George Washington University	Okla.
Mayer, Louis Harvey B.S. 1941, Harvard University	W.Va.	McWade, Robert M. B.S. 1942, Miami University	D.C.
Mayer, John Joseph B.S. 1941, The George Washington University	Ohio	Meerzucker, Samuel B.S. in Fine 1942, University of Tulsa	Ohio
Mayer, William South, Jr. B.S. 1941, University of South Carolina	Ohio	Meunier, Walter M. Joseph B.S. 1946, United States Naval Academy	Fla.
Mayer, John Bennett B.S. 1941, University of Louisville	Md	Melton, David Ralph Meyer, Joseph Jackson	D.C. Ga.
Mayer, William Thomas B.S. 1941, University of New York	Ky	A.B. 1948, Flory University	
Mayer, Robert B.S. 1941, Boston University	Va.	Meyer, Charles Eugene Meyer, Arthur M. Mario	D.C. Md.
Mayer, Raymond John B.S. 1941, The George Washington University	N.Y.	Meyer, Stanley Howard B.S. 1947, LL.B. 1950, William and Mary College	N.Y.
Mayer, John Robert B.S. 1941, University of Arizona	N.Y.	Merwin, John Chester A.B. 1948, University of Maryland	D.C.
Mayer, Norman B.S. 1941, Northern Illinois State University	Ariz.	Messner, Alvin Harold B.S. 1947, Kansas State College of Agriculture and Applied Science	Md.
Mayer, Joseph B.S. 1941, College of the City of New York	Md	Meyer, Louis W. Meyer, Lewis Richard	Tex. Monte Fla.
Mayer, George B.S. 1941, Georgetown University	Ill.	Miles, Robert William B.S. in M.L. 1948, New York University	
Mayer, William B.S. 1941, University of Pittsburgh	N.Y.	Milam, Allen B.S. 1948, M.P.A. 1949, New York University	N.Y.
Mayer, Louis B.S. 1941, The George Washington University	N.C.	Miles, Kathryn A.B. 1948, University of Hawaii	Hawaii
Mayer, Louis B.S. 1941, The George Washington University	Va.	Miles, Katherine Richmond B.S. 1947, Louisiana College	D.C.
Mayer, Louis B.S. 1941, The George Washington University	W.Va.	Miles, Joseph B.S. 1947, University of Cincinnati	Ohio
Mayer, Louis B.S. 1941, The George Washington University	Md	Miles, Ronald K. A.P. 1949, San Diego State College	Calif.
Mayer, Louis B.S. 1941, The George Washington University	Ill.	Miles, Walter William A.B. 1948, University of Virginia	Va.
Mayer, Louis B.S. 1941, The George Washington University	N.Y.	Miles, Donald Lee A.B. 1948, Iowa State University	Md.
Mayer, Louis B.S. 1941, The George Washington University	N.Y.	Miles, Ernest A.B. 1948, Syracuse University	Fla.
Mayer, Louis B.S. 1941, The George Washington University	Md	Miles, Edward Cyrus A.B. 1947, Manhattan College	Pa.
Mayer, Louis B.S. 1941, The George Washington University	D.C.	Miles, Gerald Joseph A.B. 1948, The George Washington University	D.C.
Mayer, Louis B.S. 1941, The George Washington University		Miles, Louis B. A.B. 1948, The George Washington University	Va.
Mayer, Louis B.S. 1941, The George Washington University		Miles, Melvin Eugene	Pa.



The George Washington University		N.J.
Miller, Paul J.	D.C.	Moss, Thayer David
B.S. 1929, Mississippi State College		B.S. 1937, Bucknell University
A.M. 1942, American University		LL.B. 1951, Georgetown University
Miller, Theodore Arnold	Pa.	Mowry, Boardman Shaw
Miller, Virginia Jane	Ohio	B.S. in C.E. 1949, Purdue University
A.B. 1945, College of Wooster		Muir, Matthew Sharp
Miller, William L.	Va.	A.B. 1934, University of Washington
B.S. 1951, Georgetown University		Mullarney, John Kenneth
Miskowicz, Milan Carl	Ill.	M.E. 1950, Stevens Institute
B.S.F. 1948, M.F. 1949, University of Michigan		Mullin, Roger William, Jr.
Mitchell, Americus	Fla.	A.B. 1935, Brooklyn College
A.B. 1945, Vanderbilt University		LL.B. 1958, Fordham University
Mitchell, Charles Bradford	N.H.	Mullon, Franklin Gerard
Ph.D. 1928, A.M. 1929, Wesleyan University		B.S. 1941, University of New Hampshire
Ph.D. 1939, Harvard University		Mundy, John Leo
Mitchell, John Joseph	D.C.	A.B. 1948, Lafayette College
B.S. 1937, Boston College		Muntz, John Allen
LL.B. 1942, Georgetown University		A.B. 1950, Davis and Elkins College
Mitchell, Leroy William	Ill.	Munz, Otto John
B.S.E.E. 1949, Rose Polytechnic Institute		J.D. 1951, Charles University of Prague
Mohr, Paul James	N.Y.	Muresiano, Dinu Alexandrescu
Mondschein, Earl Jay	Va.	Murphy, John Ancona
A.B. 1951, The George Washington University		B.S. 1948, Georgetown University
Montague, Joseph Leon	Calo.	Murphy, John Attwell
B.S. 1949, University of Denver		B.S. 1950, James Millikin University
Mooney, Patricia Ann	Tex.	Murphy, Joseph Patrick
A.B. 1941, College of Mines and Metallurgy, Texas		A.B. 1949, LL.B. 1950, The George Washington University
A.M. 1944, East Texas State Teachers College		Murray, John Joseph, Jr.
Ph.D. 1946, Cornell University		B.S. 1949, Boston College
Mooney, Robert James	Conn.	Murray, Joseph
B.M.E. 1943, Yale University		B.S. 1949, University of Richmond
Moore, David Lewis	D.C.	Musket, James William
A.B. 1936, Harvard University		B.S. 1950, St. Joseph's College
Moore, Douglas Hamilton, Jr.	Md.	
B.S. 1950, The George Washington University		Nachtsheim, John J.
Moore, Jesse Myatt	Ark.	B.S. in N.A. and M.E. 1947, Webb Institute of Naval Architecture
Moore, Stewart Faucett	W.Va.	Naecker, Priscilla Margaret
A.B. 1943, Bethany College		Nail, Edwin Starkey
B.S. 1948, Carnegie Institute of Technology		Najaiiko, Edward George
Morales-Yordan, Jorge	D.C.	B.S. 1946, University of Pennsylvania
A.B. 1948, University of Puerto Rico		Nakashima, Sumo
Moran, Leroy	Va.	Nalla, John Willard, Jr.
Morgan, Glenn Franklin, Jr.	Va.	Nanna, Emmett Hiram, Jr.
Morgan, Robert Elsozo	Md.	A.B. 1950, University of Maryland
B.S. in Eng. 1950, The George Washington University		Narin, Alvin Aaron
Moritz, Andrew Bruce	S.D.	B.S. 1952, Temple University
A.B. 1942, University of South Dakota		Nesl, Robert Maston
Morley, John Royal	N.J.	A.B. 1948, A.M. 1949, Emory University
A.B. 1949, Marietta College		Needler, William Lowell
Moroney, John Joseph	D.C.	B.S. 1950, University of Illinois
B.S. 1951, Georgetown University		Neeley, Arthur Call
Morrell, Donald Clark	N.Y.	B.S. 1948, Columbia University
A.B. 1948, Colgate University		Neighbors, Walter Draper
Morris, James Philip	N.C.	A.B. 1950, University of Virginia
A.B. 1951, The George Washington University		Nelson, Helen Mae
Morrison, Mary Lee	N.Y.	A.B. 1950, San Diego State College
B.S. in M.E. 1944, Lehigh University		Nelson, Merle Ellsworth
Morse, Walter Herbert	Conn.	B.B.A. 1949, University of Minnesota
A.B. 1942, Princeton University		Nesbit, Mary Katherine
LL.B. 1948, University of Virginia		A.B. 1941, The George Washington University
Moskowitz, William	N.Y.	Nesbitt, John
A.B. 1951, The George Washington University		Nesbitt, John Fwald
		B.S. 1950, Memphis State College
		Nicholson, Robert Houston
		B.S. 1951, University of Maryland
		Noone, Anthony

		P	
Noon, Joseph Aloysius B.S. 1912, St. Joseph's College Norden, Harry T. LL.B. 1940, The George Washington University	D.C.	Pallas, Themis Constantine B.S. in Ind. Eng. 1948, Washington University	Mo.
Norman, Ellington Murray A.B. 1944, University of Georgia	Wash.	Pallansch, Margaret Mary A.B. 1947, Trinity College	Wis.
Norman, Henry Robert A.B. 1951, Western Maryland College	Ga.	Palmer, William David B.S. 1943, United States Coast Guard Academy	Va.
Norman, Paul Maxfield B.S. 1946, United States Military Academy	N.Y.	Pandian, Nicholas Anthony B.S. in C.E. 1947, Northeastern University	Mass.
Norm, Walter Franklin A.B. 1954, Westminster College	Pa.	Parker, Charles Hanke B.S. 1942, Worcester Polytechnic Institute	Va.
Norman, Edward James A.B. 1946, Columbia University	Mo.	Parker, Ralph Woodford A.B. 1949, Georgetown College	Ky.
Norman, Overton Perry A.B. 1941, University of Michigan	N.Y.	Parkes, James Lloyd A.B. 1949, The George Washington University	Md.
Norm, Frances Louise A.B. 1948, Vassar College	D.C.	Parkinson, Kenneth Wells A.B. 1950, The George Washington University	Md.
Normann, Harold Franklin A.B. 1950, The George Washington University	D.C.	Pasternak, Andrew A.B. 1950, University of Pittsburgh	Pa.
O	Kans.	Patch, Robert John B.S. 1948, University of Michigan	D.C.
Orsini, John Paul B.S. 1945, United States Coast Guard Academy	Pa.	Patnaude, Edmond Thomas B.E.E. 1948, Rensselaer Polytechnic Institute	Va.
Orsini, Anthony Aloysius B.S. in M.E. 1950, The George Washington University	D.C.	Patterson, Duane Lester A.B. 1950, Denison University	Ohio
Orsini, James Dennis A.B. 1949, Columbia University	Iowa	Pattison, Hubert Allen, Jr. B.S. 1950, Michigan State College	Mo.
Orsini, John Joseph A.B. 1949, Columbia University	Md.	Pautowski, Carl Joseph B.Chem. 1948, Cornell University	N.Y.
Orsini, Thomas Emmett LL.B. 1950, The George Washington University	Va.	Payne, William Darby A.B. 1949, University of Maryland	D.C.
Orsini, Alice Louise A.B. 1950, Pennsylvania State College	D.C.	Pearce, Ira Hersey A.B. 1951, The George Washington University	D.C.
Orsini, Fred George B.S. 1950, Union College	Wash.	Pearson, Joe Morgan B.S. 1941, Northeastern State College	Md.
Orsini, Edward Pierce B.E.E. 1950, Union College	Pa.	Pearzee, Frank Thomas A.B. 1949, William Jewell College	Va.
Orsini, John Michael M.A. 1941, University of California	N.Y.	Peck, Merl Bucknell A.B. 1944, Nebraska State Teachers College	Nebr.
Orsini, Ph.D. 1946, California Institute of Technology	D.C.	LL.B. 1948, Georgetown University	
Orsini, Karl Anthony A.B. 1946, Ohio State University	Ohio	Peltzer, Vernon Amos A.B. 1941, De Pauw University	Ill.
Orsini, Thomas Robert A.B. 1946, Pennsylvania State College	Hawaii	Pence, LeGrand Winfield III A.B. 1950, The George Washington University	Pa.
Orsini, Robert Francis A.B. 1946, Pennsylvania State College	Va.	Pereni, Guy Nicholas A.B. 1949, University of Notre Dame	Md.
Orsini, Edward Patrick M.A. 1946, Baylor University	D.C.	Perer, Horace Hugo B.S. 1946, Louisiana State University	D.C.
Orsini, University of Tennessee A.B. 1946, Ohio State University	N.Y.	LL.B. 1944, The George Washington University	
Orsini, Frank Richard A.B. 1946, Pennsylvania State College	Pa.	Petty, Albert M. Lees A.B. 1942, The Citadel	Va.
Orsini, The George Washington University	N.J.	Petty, Eliza Virginia A.B. 1948, Hunter College	D.C.
Orsini, Ellsworth A.B. 1946, Michigan State College	Pa.	Petersen, Stanley Wilhelm A.B. 1947, The George Washington University	N.Y.
Orsini, Alexander A.B. 1946, University of Warsaw	Va.	Peterson, Charles David A.B. 1942, Harvard University	Maine
Orsini, William John A.B. 1946, University of Maryland	D.C.	Peterson, Milton Maurice B.S. 1944, Central Michigan College of Education	D.C.
Orsini, George Sydney A.B. 1946, University of Maryland	N.Y.	M.S. 1942, University of Michigan	



Peterson, Nad Alma	Utah	Powell, Alice Windsor	D.C.
A.B. 1958, The George Washington University		A.B. 1959, University of North Carolina	Wash.
Peto, John	N.J.	Powell, John Theodore	Ohio
B.S. 1947, College of the City of New York		A.B. 1949, University of Washington	
Petta, Louis E.	N.Y.	Powers, William L.	Pa.
A.B. 1951, Adelphi College		A.B. 1925, Princeton University	
Petters, Sofia Pauline	Va.	Prendergast, James Francis	Va.
A.B. 1948, University of North Carolina		A.B. 1948, Lafayette College	Tenn.
Phelan, Charles Scott	Va.	Price, Hoyt Glenn	Tenn.
B.S. in E.E. 1949, Pennsylvania State College		Price, James Travis	
Pherson, John Randolph	Va.	Price, John Davis	N.M.
A.B. 1948, The George Washington University		B.S. 1942, United States Naval Academy	
Philipson, Bruce Gibeck	D.C.	Price, John Edward	D.C.
B.C.E. 1948, Catholic University of America		B.S. 1942, Texas Wesleyan College	N.C.
A.M. 1950, The George Washington University		Price, Robert Nelson	Va.
Phillips, Jack L.	Idaho	Puckett, William Nelson	Ky.
A.B. 1951, Idaho State College		Pulley, Robert Earl	
Phlips, John William	Va.	B.S. 1947, Jamestown College	
B.S. 1950, University of New Hampshire		Putnam, Harriet Russell	
Pickens, John Kenneth	D.C.	A.B. 1945, Smith College	
A.B. 1952, LL.M. 1948, The George Washington University			
LL.B. 1942, Harvard University	Pa.	Quarforth, Carl Donald	S.D.
Pizak, Walter Arnold	D.C.	B.Ch.E. 1946, University of Virginia	D.C.
A.B. 1949, Welles College		Queen, Henry Anderson	D.C.
Pirkerton, Francis Clayton	D.C.	A.B. 1933, LL.B. 1937, Georgetown University	
A.B. 1954, University of Maryland		Queen, John A.	Va.
Pirch, Arthur	D.C.	A.B. 1950, The George Washington University	
A.B. 1948, The George Washington University		Quinner, Richard Curtis	Va.
Pirous, William	N.Y.	B.S. in E.E. 1937, New York University	Conn.
A.B. 1947, Brooklyn College		Quenstedt, Warren Daley	
A.M. 1948, American University		A.B. 1950, The George Washington University	
Pirson, Roger	Md.	Quinn, John Joseph	Ill.
A.B. 1950, University of Michigan		A.B. 1950, Ohio Wesleyan University	
Pirsh, R. Ronald Collins	Md.	Quinn, John Joseph	
B.S. in Ch.E. 1948, Northeastern University		A.B. 1946, Harvard University	
Plante, Norman Anthony	N.H.		
A.B. 1950, University of New Hampshire		R	Md.
Platt, Nancy Louise	Ill.	Raber, Samuel	N.Y.
Plesnick, Lynn Roberts	Miss.	B.S. in E.E. 1950, Union College	
B.B.A. 1946, Iona University		and University	Pa.
LL.B. 1948, Washington and Lee University		Rabinowitz, Chester John	
Pletcher, Ralph Weldon	Va.	A.B. 1948, Syracuse University	Mo.
B.S. 1948, University of Maryland		Rabin, Joseph	N.Y.
Poise, Jack Pat	W.Va.	A.B. 1948, Welles College	
B.S. 1949, West Virginia University		Rabinowitz, Arnold Hamilton	Me.
Pollard, John Ray	Del.	A.B. 1950, Minnesota State University	
A.B. 1944, Mary Baldwin College		A.B. 1950, Duke University	Me.
Pope, James Edward	D.C.	A.B. 1950, Wellesley College	
A.B. 1948, The George Washington University		A.B. 1950, Wesleyan College	
Porter, Ross George	Utah	Rabinowitz, Norman Leslie	
Posey, Bruce Richard	Va.	A.B. 1950, Harvard University	
B.S. 1957, University of Oklahoma		Rabinowitz, Robert	
Potter, Mel Roy	Va.	A.B. 1950, University of California	
B.S. 1942, University of Chattanooga		A.B. 1950, Los Angeles	
Potts, Edward Andrew	Pa.	at Los Angeles	
A.B. 1942, University of Michigan		LL.B. 1950, Washington University	
		Rabinowitz, William	Wis.
		B.S. 1948, Indiana University	
		Rabinowitz, Robert Charles	Me.
		A.B. 1950, Wesleyan College	
		Rabinowitz, Frank Joseph	
		B.S. in M.E. 1946, University of Illinois	



Re, Anthony John A.B. 1951, The George Washington University	N.J.	Risdon, John Louis Risen, Paul Sydnol B.S. 1951, Illinois State Normal University	Va. III.
Reagan, Daniel F., Jr. A.B. 1951, The George Washington University	Conn.	Rissler, Robert Lorain A.B. 1947, Shepherd College	W Va.
Reardon, Barbara Ellen A.B. 1948, University of Washington	Wash.	Ritchie, Fred Monks B.M.E. 1949, The George Washington University	Md.
Reardon, Daniel Joseph B.S. 1947, College of the Holy Cross M.S. 1951, New York State College for Teachers	N.Y.	Ritterbusch, Irvin John A.B. 1950, University of Maryland	Md.
Reardon, James Gavin A.B. 1950, College of the Holy Cross	Mass.	Ritmamm, Dean Vincent Rivers, Andrew A.B. 1950, The George Washington University	Tex. Puerto Rico
Reardon, William L.L.B. 1951, The George Washington University	D.C.	Roamer, James Mahan, Jr. B.C.E. 1950, The George Washington University	D.C.
Reichwald, William Elmer B.S. in M.E. 1948, Purdue University	Va.	Robbins, Frank Edward, Jr. B.Ch.E. 1944, Rensselaer Polytechnic Institute	D.C.
Reed, Ansel Mason A.B. 1951, Hendrix College	Ark.	Roberts, Gordon Stroughbridge B.S. 1941, Phillips University	Ky.
Reed, Halie Mae A.B. 1947, The George Washington University	Va.	Roberts, Louis Ross Roberts, Richard Edwin Robertson, Roger Elmer B.S. in E.E. 1942, M.S. in E.E. 1942, Massachusetts Institute of Technology	Md. Va. Md.
Reed, Benjamin Fay L.L.B. 1940, The George Washington University	Mass.	Robinson, Leroy B.S. 1950, L.L.B. 1951, Wake Forest College	N.C.
Reed, John Vincent B.S. in E.E. 1950, Tufts College	Mass.	Roche, John Manley Rolden, Robert Gerald A.B. 1944, University of Pittsburgh A.M. 1949, American University	Mich. Va.
Reed, James Edward A.B. 1951, Texas Christian University	Tex.	Rodgers, James Edwin L.L.B. 1950, The George Washington University	Pa.
Reed, Paul Joseph M.A. 1947, Xavier University B.S. 1949, University of Detroit	Ohio	Rogers, Michael Edward B.S. 1948, Columbia University	D.C.
Reed, Benram Robert B.S. in E.E. 1946, Duke University	D.C.	Rohlander, Robert Dale B.S. 1950, University of Colorado	Kans.
Reed, Julian Carroll B.S. 1946, University of Michigan	Fla.	Roliner, Rudolph Valentin B.S. in Eng. 1949, University of Pittsburgh	Pa.
Reed, Richard John B.S. 1950, Iowa State University	Minn.	Roller, Frank Colner B.S. 1946, University of Arizona	D.C.
Reed, Robert Russell A.B. 1950, University of the Philippines	D.C.	Rolph, John Fletcher Rimbouts, Robert Marvin A.B. 1951, Michigan State College	Md. Mich.
Reed, Marcel Villafior A.B. 1950, University of the Philippines	Philippines	Rimmer, Vernon Bradford B.S. 1948, University of Utah	Utah
Reed, Edward Jenkins A.B. 1951, University of California	Md.	Rosen, William Albert Rose, Alan Conrad B.S. 1944, Massachusetts Institute of Technology	Wash. Md.
Reed, Robert Owen A.B. 1946, Loyola College A.B. 1949, Alabama Polytechnic	Mo.	Rose, Arthur A.B. 1951, Rutgers University	N.J.
Reed, Joseph A.B. 1949, Catholic University of America	Pa.	Rose, Neil Mosen B.S. in M.E. 1949, Northwestern University	N.J.
Reed, Charles A.B. 1951, The George Washington University	Va.	Rosen, Lawrence B.S. 1948, L.L.B. 1950, University of Wisconsin	D.C.
Reed, Eugene A.B. 1951, University of Maryland	D.C.	Rosen, Harvey B.S. 1951, University of Maryland	D.C.
Reed, Mary A.B. 1951, University of Pennsylvania	D.C.	Rosen, Sidney Nathan B.S. 1951, University of Maryland	Va.
Reed, William A.B. 1951, Catholic America	Md.	Rosen, Helen Mauer A.B. 1950, Wellesley College	D.C.
Reed, Michael Leon A.B. 1951, The George Washington University	N.C.	Ross, David Michael A.B. 1946, A.M. 1948, The George Washington University	Pa.
Reed, Howard A.B. 1951, Georgetown University	Mass.		

Ross, Mary Romans	Minn.	Sadowsky, Gersten	N.Y.
A.B. 1949, Grinnell College		B.M.E. 1947, College of the City of New York	
Ross, Michael	D.C.	Sagle, Robert Franklin	Md.
L.L.B. 1941, Boston College		A.B. 1951, The George Washington University	
Ross, Samuel B.	D.C.	Sahn, Henry Spencer	Pa.
A.B. 1921, University of Pittsburgh		B.S. 1931, Lehigh University	
A.M. 1923, Ph.D. 1931, Columbia University		St. Asand, Joseph Max m. Jr.	D.C.
Roten, John Wesley	W.Va.	B.S. in F.E. 1949, Purdue University	N.C.
Roth, Paul Alexander	D.C.	St. George, William Ross	
A.B. 1951, University of North Carolina		B.S. 1946, United States Naval Academy	R.I.
Rothberg, Samuel Bernard	N.Y.	Salter, Elliot Arnold	Mo.
Rothrock, John Allen, Jr.	Va.	B.S. in M.E. 1945, Brown University	
B.S. 1943, Northwestern University		Sames, Mary Ann	Ohio
Rockin, Irvine Jacob	Md.	A.B. 1947, University of Missouri	
B.S. in M.E. 1946, Virginia Polytechnic Institute		Sandel, Leo	N.C.
Rowe, Willis Case	D.C.	A.B. 1951, Kent State University	N.Y.
A.B. 1943, L.L.B. 1950, The George Washington University		Smolens, Frank Powell	
Roylance, Donald Garvar	Md.	Smolens, Robert James, Jr.	Del.
Ruben, Louis Leonard	D.C.	B.S. 1948, L.L.B. 1951, Fordham University	
A.B. 1951, The George Washington University		Sands, George Lewis	Va.
Rubenstein, Julius Louis	Ill.	A.B. 1949, Duke University	
B.S. 1944, University of Illinois		Sarfan, Mayer Alvin	N.Y.
Rudman, Gerald Earl	Maine	B.S. 1947, I.I.B. 1950, University of Virginia	
A.B. 1949, University of Maine		Sattler, Leonard S.	Ohio
Ruemeli, Robert Frank	Mo.	B.S. 1949, Georgetown University	
B.S. in M.E. 1941, Washington University		Sayre, Robert Marion	Mass.
Rugen, Barbara Dorsch	Va.	A.B. 1949, Williams University	
A.B. 1942, College of Wooster		Scarborough, James K.	Sc.
Rubman, Terrell Louis	Pa.	A.B. 1949, The George Washington University	
B.S. in C.E. 1949, Pennsylvania State College		Scarborough, Maxine	
Runner, Edwin C.	W.Va.	A.B. 1947, University of South Carolina	D.C.
A.B. 1949, A.M. 1950, West Virginia University		Schuster, Frederick	
Rushbrook, Leslie James	Va.	B.C.E. 1948, L.M. 1951, The George Washington University	N.Y.
A.B. 1950, American University		Schulman, Theodore Jacob	Pa.
Russell, Robert Raymond	Mass.	L.L.B. 1928, Georgetown University	
B.S. 1929, United States Coast Guard Academy		Schulman, Theodore Jacob	
Rustell, Thomas Hale	Va.	A.B. 1931, College of the City of New York	
A.B. 1949, Harvard University		Schulz, Harry Carl	Md.
Rinson, Sarah Churchill	Va.	A.B. 1929, University of Pennsylvania	
A.B. 1941, Hopkins College		Schulze, William Vincent	N.I.
Ruszkiewicz, Joseph Edward	Pa.	B.S. in F.E. 1945, University of Louisville	
B.S. in F.E. 1948, University of Pittsburgh		Scherback, William John	D.C.
Ryan, Charles Patrick	Pa.	B.S. in F.E. 1949, University of Wisconsin	
Ryan, John Clifford	Va.	Schiller, David Mulford	Md.
A.B. 1947, Iowa College		B.S. in F.E. 1948, Carnegie Institute of Technology	
Ryan, John Powell	Md.	Schmeltzer, Edward	Pa.
Rymer, Thomas Arlington	Md.	A.B. 1950, Hunter College	
B.C.E. 1948, Cornell University		A.M. 1951, Columbia University	
Ryerson, Wendell Peir	Ind.	Schmertz, Robert Colgan	
A.B. 1926, De Paul University		B.S. in F.E. 1941, Princeton University	Md.
L.L.B. 1929, Indiana University		Schmidt, Charles Gordon	Md.
L.L.M. 1932, The George Washington University		A.B. 1951, University of Maryland	
	S	Schran, Donald R.	Ohio
Sabin, William Couper	Md.	B.S. 1946, University of Pittsburgh	
B.S. 1951, University of Maryland		Schreiber, Heli	
Sabel, Eugene	N.Y.	A.B. 1941, The George Washington University	
B.S. in C.E. 1950, Rensselaer Polytechnic Institute			
Saddler, Ivan Roy	Tex.		
B.S. in F.E. 1950, University of Texas			

Shawder, Frederick John B.N. 1918, United States Naval Academy M.B.A. 1949, Harvard University Pa.	N.Y.	Sharkey, James Francis LL.B. 1951, The George Washington University Pa.	Pa.
Shaw, Valeria B.S. 1942, University of Houston Tex.	Tex.	Sharkey, Walter Joseph A.B. 1936, Providence College R.I.	R.I.
Shaw, James Lee B.S. 1947, Webb Institute of Naval Architecture Wash.	Wash.	Sharon, John Hartford A.B. 1949, Princeton University N.J.	N.J.
Shaw, Donald P. B.S. 1941, M.E. 1951, Oklahoma Agricultural and Mechanical College Pa.	Va.	Sheble, Walter Franklin A.B. 1948, Princeton University Pa.	Pa.
Shaw, Haler, Janet M.A. 1948, The George Washington University D.C.	D.C.	Shelhorse, George Walter LL.B. 1951, The George Washington University Va.	Va.
Shaw, Raphael Henry B.S. 1945, M.E. 1946, Marquette University D.C.	D.C.	Shenko, William Edward B.S. 1954, North Dakota State College N.D.	N.D.
Shaw, Rosalyn A.B. 1947, The George Washington University D.C.	D.C.	Sherman, William Robert B.S. 1946, University of Wisconsin Va.	Va.
Shaw, S. C. E. B.S. 1948, College of the Holy Cross D.C.	D.C.	Sherwood, James Stock A.B. 1947, The George Washington University Md.	Md.
Shaw, S. J. F. B.S. 1947, The George Washington University Md.	Md.	Shields, James Robert B.S. 1949, University of Maryland Hawaii	Hawaii
Shaw, Richard Salvatore B.S. 1947, Lafayette College Conn.	Pa.	Shim, Alvin Tong A.B. 1949, University of Hawaii Conn.	Conn.
Shaw, Albert William B.S. 1949, Northwestern University Pa.	Pa.	Shindell, Sidney B.S. 1944, Yale University M.D. 1946, Long Island College of Medicine Ohio	Ohio
Shaw, Nancy Anne B.S. 1947, Cornell University Mass.	Mass.	Shine, Howard Lawrence A.B. 1949, Bowling Green State University Ill. B. 1951, The George Washington University D.C.	D.C.
Shaw, Henry Eugene B.S. 1947, Catholic University Ill.	Ill.	Shipley, George Edward Shrock, Richard Fuller A.B. 1949, University of North Carolina W Va.	W Va.
Shaw, Frederick Carl Jr. B.S. 1949, University of Wisconsin D.C.	Wis.	Shugart, Elizabeth Wile A.B. 1947, Ohio University N.Y.	N.Y.
Shaw, George B.S. 1947, Dartmouth College Ohio	D.C.	Shuster, Jacob B.M.E. 1949, College of the City of New York Calif.	Calif.
Shaw, George B.S. 1947, University of Pittsburgh N.C.	Ohio	Siegel, Abraham B.S. 1947, College of the City of New York J.D. 1950, The George Washington University D.C.	D.C.
Shaw, George B.S. 1947, North Carolina State University D.C.	N.C.	Siggins, Gene Paul A.B. 1951, University of Maryland Mass.	Mass.
Shaw, George B.S. 1947, The George Washington University Wis.	D.C.	Silver, Richard A. A.B. 1947, Boston University D.C.	D.C.
Shaw, George B.S. 1947, The George Washington University Va.	Wis.	Silverman, Elv A.B. 1947, New York University N.Y.	N.Y.
Shaw, George B.S. 1947, University of South Md.	Va.	Sirhan, Leonard E. B.S. 1948, Ohio State University Md.	Md.
Shaw, George B.S. 1947, Rhode Island State College Conn.	Md.	Siskind, Elmer Louis A.B. 1948, Johns Hopkins University D.C.	D.C.
Shaw, George B.S. 1947, University of Connecticut Ohio	Conn.	Sitz, Walter Herbert B.S. 1947, United States Naval Academy M.S. 1952, Massachusetts Institute of Technology Md.	Md.
Shaw, George B.S. 1947, University of Ohio Md.	Ohio	Siz, Walter Herbert LL.B. 1952, The George Washington University N.Y.	N.Y.
Shaw, George B.S. 1947, University of Ohio Md.	Md.	Slack, Rose B.S. 1947, Columbia University Va.	Va.
Shaw, George B.S. 1947, University of Ohio Md.	Md.	Slack, Douglas Ben B.S. 1947, Pennsylvania State College Wyo.	Wyo.
Shaw, George B.S. 1947, University of Ohio Md.	Md.	Slack, Douglas Ben A.B. 1947, University of Oklahoma Ohio	Ohio
Shaw, George B.S. 1947, University of Ohio Md.	Md.	Slack, Douglas Ben A.B. 1947, Ohio Wesleyan University Ohio	Ohio



Sloane, Edward Frederick A.B. 1950, The George Washington University	Md.	Spaulding, John Henry A.B. 1949, The George Washington University	D.C.
Small, Grover Lee A.B. 1949, University of Maryland	D.C.	Spear, Harvey Milton A.B. 1945, Brown University	R.I.
Smigielski, Joseph Francis B.S. 1941, Boston College	Mass.	LL.B. 1946, Harvard University	
Smith, Charles William A.B. 1950, West Virginia University	W.Va.	A.M. 1949, The George Washington University	N.Y.
Smith, Charles William A.B. 1951, The George Washington University	Va.	Spector, George B.C.E. 1947, M.C.E. 1947, Brooklyn Polytechnic Institute	Pa.
Smith, Delos Grosvenor A.B. 1950, Yale University	D.C.	Spock, John Paul A.B. 1950, University of Maryland	Ala.
Smith, Edgar Thomas B.S. 1951, Pennsylvania Military College	Pa.	Springer, Curtis Howe A.B. 1949, University of Alabama	D.C.
Smith, George Francis A.B. 1950, The George Washington University	D.C.	Springer, Herbert A.B. 1951, University of New Mexico	Tex.
Smith, George Peter B.M.E. 1950, Cornell University	Ill.	Squires, Nora Anderson A.B. 1949, The George Washington University	Md.
Smith, Gladys Fay A.B. 1951, The George Washington University	Ohio	A.M. 1950, University of Geneva	P.C.
Smith, Harold A.B. 1951, The George Washington University	N.Y.	Stoka, Edward Andrew B.S. 1941, Purdue University	P.C.
Smith, Harold Calmes, Jr. A.B. 1950, The George Washington University	Md.	Stahl, Seymour B.S. 1949, University of Miami	Tex.
Smith, Harvey A.B. 1947, Syracuse University	N.J.	Stallings, John Leslie B.S. 1949, Midwestern University	Pa.
LL.B. 1950, New York University		Stambaugh, Harold Eugene B.S. 1948, University of Pennsylvania	D.C.
Smith, James Donald A.B. 1941, Municipal University of Omaha	Nebr.	Stark, John Regan A.B. 1938, Cornell University	Calif.
A.M. 1944, Western Reserve University		M.P.A. 1946, New York University	
Smith, James Joseph B.S. 1950, Hobart College	D.C.	Stauffer, James Elwood A.B. 1941, Franklin and Marshall College	Mich.
Smith, Jennings Talbot A.B. 1950, The George Washington University	Md.	Steadman, Lewis Tilden B.M.E. 1946, Syracuse University	Va.
Smith, Mildred Jonathan A.B. 1945, Bryn Mawr College	D.C.	Stefley, Richard Carlisle A.B. 1941, Roanoke College	N.Y.
Snellings, Andrew Beryl, Jr. B.S. in Ed. 1950, Wittenberg College	D.C.	Stem, Stefan Martin A.B. 1948, Cornell University	N.Y.
Snyder, Earl A. A.B. 1950, LL.B. 1947, Indiana University	Va.	Steinberg, Jules Henry B.S. 1948, Pennsylvania State College	Pa.
Socular, Milton Joseph B.S. 1950, University of Maryland	D.C.	Stephens, John A.B. 1946, The George Washington University	Ind.
Soffen, Marvin Clarence B.Ch.E. 1949, Cornell University	D.C.	Stephens, Richard Glenn B.S. in E.E. 1948, Purdue University	Ind.
Solomon, Edward, Jr. A.B. 1949, Pennsylvania State College	Pa.	Stephenson, Garth A. A.B. 1951, Brigham Young University	Utah
Soltow, William Donald, Jr. B.M.E. 1948, Rensselaer Polytechnic Institute	Md.	Steinberg, Arnold Charles A.B. 1947, University of Wisconsin	Md.
Soscek, Frank James B.E.E. 1948, The George Washington University	Va.	Stevens, Joseph Leopold J.D. 1953, University of Vienna	
Southwell, Paul M. A.B. 1940, The George Washington University	Okla.	M.C.L. 1951, The George Washington University	Mich.
Sowder, Raymond Curtis A.B. 1949, West Virginia University	W.Va.	Stevenson, Malcolm Searle A.B. 1950, Bowdoin College	Md.
Sowell, John Broadus B.M.E. 1948, Georgia Institute of Technology	D.C.	Stewart, Clara Betty B.M.E. 1948, Clemson College	Va.
Spane, Clarence Wilbur B.E. 1941, Yale University	D.C.	Stewart, Milton David A.B. 1941, New York University	P.C.
Spann, George Klepfer	Md.	MS. 1942, Columbia University	Pa.
		Stewart, S. Grant B.S.C. 1944, University of Nebraska	
		Suetel, Maurice Ben B.S. in C.E. 1951, University of Pennsylvania	D.C.
		Sulmar, Robert Louis B.E. 1940, Yale University	P.C.
		Stirling, Edwin Tillman B.S. 1951, The George Washington University	

Stelman, Joseph B.S. 1914, E.E. 1914, Cooper Union A.B. 1918, University of Pittsburgh	D.C.	Sweet, Noah Spurgeon, Jr. B.S.C. 1946, LL.B. 1948, University of Mississippi	Miss.
Steele, John Milton LL.B. 1928, A.B. 1951, University of Alabama	Pa.	Sweeney, Edwin Cornelius A.B. 1919, University of Kentucky	Ill.
Stegeler, R. LL.B. 1928, University of Erlangen, Germany	Ala.	M.D. 1942, Tulane University	
Stegeler, James, Jr. B.S. 1929, University of Maryland	Md.	Sweeney, Stuart Haskett A.B. 1942, Upstate College	Md.
Stegeler, H. Jr. B.S. 1929, University of Southern Calif.	Md.	Sweeney, Vincent Henry B.S. 1942, Boston College	Mass.
Stegeler, Walter B.S. 1929, College of the City of New York	Calif.	Swick, Bernhard Ray B.S. 1947, University of Wisconsin	N.Y.
Stegeler, Albert Donald B.S. 1949, Rose Polytechnic Institute		Sikes, Richard Tucker	Calif.
Stegeler, James Reist B.S. 1949, Franklin and Marshall College	D.C.	T	
Stegeler, Matthew B.S. 1925, University of Pennsylvania		Taffel, Hans A.B. 1949, The George Washington University	N.Y.
Stegeler, James Robert B.S. 1950, Catholic University of America	Ind.	Takane, George Morito A.B. 1950, University of Hawaii	Hawaii
Stegeler, Glenn B.S. 1950, Dickinson College	Pa.	Takane, Hajime William A.B. 1950, University of California at Los Angeles	Calif.
Stegeler, Robert Edward B.S. 1950, Pennsylvania State College	N.Y.	Tanos, James Louis A.B. 1942, University of Pennsylvania	Pa.
Stegeler, Herbert B.S. 1949, The George Washington University	N.Y.	Tassin, James Stanley A.B. 1949, Northwestern State College of Louisiana	Va.
Stegeler, Earl B.S. 1947, University of Alabama	Ky.	Taylor, Andrew Embrace B.S. 1947, Tufts College	Md.
Stegeler, William Michael B.S. 1947, Carnegie Institute of Technology	Pa.	Taylor, Daniel Gerald A.B. 1942, Swins College	D.C.
Stegeler, James Xavier B.S. 1947, MS 1943, Fordham University	Pa.	Taylor, Herman Eugene A.B. 1942, LL.B. 1951, University of Mississippi	Miss.
Stegeler, John B.S. 1947, University of Pittsburgh	Md.	Teban, John Peter LL.B. 1951, The George Washington University	Va.
Stegeler, Patrick Gerald B.S. 1945, University of	Ind.	Teicher, Martin Richard LL.B. 1951, The George Washington University	Pa.
Stegeler, Ralph Hall B.S. 1942, Boston University	Ala.	Tepper, Milton Leo A.B. 1948, A.M. 1910, New York University	Va.
Stegeler, Leonard B.S. 1942, Simmons College	Pa.	Terry, George Mulford A.B. 1947, The George Washington University	Md.
Stegeler, M.S. 1918, College of	R.I.	Terry, Luke Edward B.S. 1918, University of Tennessee	W.Va.
Stegeler, Bernard Arthur B.S. 1947, The George Washington University	Md.	M.S. 1947, West Virginia University	
Stegeler, Anne McDonald B.S. 1947, University of Rochester	D.C.	Thibault, Frederick H. B.S. 1941, Utah State Agricultural College	Ky. Utah
Stegeler, Eugene B.S. 1947, Oklahoma Agricultural College	Tex.	Thomas, Gregory Thomas, Ralph Leslie B.L.E. 1947, University of Louisville	Md. Fla.
	Mass.	Thomas, William Bates A.B. 1947, The George Washington University	D.C.
	N.Y.	Thomas, William Franklin B.S. 1948, University of Oregon	Va.
	D.C.	Thompson, Conrad Warden, Jr. B.S. 1948, Marshall College	W.Va.
	Ohio	Thompson, Matthew Charles B.S. 1947, Iowa State College of Agriculture and Mechanic Arts	Va.
	Okla.	Thompson, Walter Eugene A.B. 1946, University of North Carolina	S.C.
		Thornton, Percy, Jr.	N.C.

Tierney, John Lester  
A.B. 1929, University of Minnesota  
LL.B. 1938, University of Wisconsin  
Tilberry, James H.  
B.L.E. 1947, LL.B. 1951, Ohio  
State University  
Tillman, Murray  
A.B. 1914, Brooklyn College  
Tindley, William Granville  
A.B. 1939, Centre College of Kentucky  
Tipton, Frank Preston  
B.S. 1941, University of Georgia  
Tittlington, George Frank  
B.C.E. 1950, The George Washington  
University  
Toll, David Ross  
B.S. 1946, United States Naval  
Academy  
Tomes, James Francis  
B.S. 1949, University of Maryland  
Tracy, Martin Gerard  
A.B. 1916, University of Scranton  
LL.B. 1950, Georgetown University  
Travis, William Livingston  
B.S. 1941, United States Military  
Academy  
Treumann, Walter  
A.B. 1946, Washington University  
A.M. 1948, University of Chicago  
Trewno, Daniel Kiddle  
B.B.A. 1948, University of Texas  
Triplett, William Everett  
B.S. 1949, Georgetown University  
A.B. 1951, The George Washington  
University  
Trytko, Bert Peter  
B.S. 1949, Georgetown University  
Tucker, Lillian Elizabeth  
A.B. 1949, University of Vermont  
Tucker, Ralph M.  
Tucker, Simon  
B.S.S. 1949, College of the City of  
New York  
M.P.A. 1941, New York University  
Tunetto, Anthony Joseph  
B.S. 1945, M.S. 1947, Pennsylvania  
State College  
Turgeon, Joseph Henry III  
A.B. 1948, Oberlin College  
Turner, Bruce Williams  
A.B. 1950, Harvard University  
Turner, Irving  
B.B.A. 1941, LL.B. 1948, Georgetown  
University  
M.S. 1946, The George Washington  
University  
Turner, Joseph Morton  
A.B. 1940, Whitman College  
Tyre, Thomas Edward  
B.S. 1951, University of Maryland

## U

Ulevich, Robert Matthew  
A.B. 1950, Duquesne University  
Unkenholz, Willard Clinton  
B.M.F. 1948, College of the City  
of New York  
Urban, Edward William  
A.B. 1950, Flinders College  
Urban, Henry Herman  
J.D. 1944, University of Vienna

Wis. Ushijima, John Takeji  
A.B. 1950, Grinnell College  
V  
Ohio Vaillancourt, Wilfred Napoleon  
A.B. 1941, University of New  
Hampshire  
N.Y. Valentine, Andrew Jackson  
B.S. 1945, United States Naval  
Academy  
Ky. Valentine, Leslie Warren  
A.B. 1942, Clark University  
Md. Valenz, Joseph Thomas  
Vance, John Andrew  
B.S. 1951, Dartmouth State College  
Md. Vandermange, Orville Joseph  
Ed B. 1942, Wisconsin State Teachers  
Colo. College  
Md. Van Houten, Louis Arthur  
B.S. 1950, Iowa State University  
Pa. Van Meter, Ellsworth Evans  
A.B. 1942, Indiana State Teachers  
College  
Ga. Van Sanford, Gordon Myron  
A.B. 1949, The George Washington  
University  
D.C. Vary, Willie Leavenworth  
B.L.E. 1941, The George Washington  
University  
Tex. Vantrien, Charles Edward, Jr.  
B.S. 1941, United States Coast Guard  
Academy  
Va. Vellone, Joseph  
A.B. 1948, New Jersey State Teachers  
College, Montclair  
Md. Verano, Hugh Isber  
LL.B. 1946, Washington and Lee  
University  
Ind. Vernor, Richard Folse  
A.B. 1949, University of Oklahoma  
Va. Vulmar, Joseph Ernest  
A.B. 1948, New York State College  
for Teachers  
Nev. B.S. in L.S. 1940, Louisiana State  
University  
Va. Vitale, Michael Joseph  
LL.B. 1950, The George Washington  
University  
Pa. Vogel, Ralph Henry  
B.S. 1946, Harvard University  
Md. Vogel, Richard Harry  
A.B. 1941, University of Maryland  
Va. Volk, Charles Richard  
A.B. 1941, University of Pittsburgh  
Von Kien, Pender  
Maturitat 1945, University of Zurich  
Cernusca 1947, Academy of Interna-  
tional Law, The Hague  
Licence 1948, University of Geneva  
Vonneuman, Nicholas A.  
S.I.D. 1941, University of Budapest  
A.B. 1949, The George Washington  
University  
W  
Pa. Wadsworth, James Leo  
A.B. 1948, Brigham Young University  
Va. Wagner, Arthur Philip  
A.B. 1950, American University  
Conn. Walker, Alexander M. Donald  
A.B. 1944, University of Pennsylvania  
D.C. Walker, William David  
A.B. 1950, Cornell University



James Franklin 1946, University of Illinois	D.C.	Westcott, Raymond Arthur Va.
Jane Johnson 1950, Vassar College	D.C.	Wetherbee, Failand Henry Md.
Frederick Henry, Jr. 1940, LL.B. 1941, Georgetown	Md.	White, Alfred Lawson D.C.
Joseph 1947, University of Scranton	Pa.	White, Edwin Borden, Jr. Fla.
William Davies 1947, American University	Pa.	White, Raymond Vernon Tenn.
Charles Webster 1951, Berea College	D.C.	B.S. 1950, Memphis State College D.C.
Leon High 1949, Georgetown University	Va.	White, Robert Bellarmine Va.
David James, Jr. 1940, M.B.A. 1941, University	D.C.	Whitener, Thomas Grady Va.
John 1949, Iowa State University	D.C.	Whitescarver, Kenneth Tyree, Jr. Va.
Joseph 1947, University of Bonn	Pa.	Whitmore, Charles Warren Va.
George Cabot 1947, University of Maryland	Ky.	M.D. 1947, University of Virginia Md.
William Finer 1947, West Virginia University	Mich.	Whitney, Courtney, Jr. Md.
William Carroll 1947, Marquette University	Iowa	A.B. 1949, Yale University N.Y.
Isidor 1947, Harvard University	Va.	Whitney, George Ward N.Y.
Harvard University	D.C.	B.E.E. 1949, Rensselaer Polytechnic Institute
University of Maryland	Ohio	Whittington, Otto Wiseman Tex.
University of	W.Va.	B.S. 1951, University of Arkansas Mo.
University of	Wis.	Whitline, Harry F. N.Y.
University of	Md.	Wilkes, Charles Latimer Md.
University of	Md.	A.B. 1950, Dartmouth College D.C.
University of	N.Y.	Wilkes, James Gladstone, Jr. Tenn.
Washington and Jefferson	Md.	A.B. 1950, Dartmouth College Tenn.
New York University	N.Y.	Williams, Henry Newton Md.
Harvard University	N.Y.	B.S. 1947, Middle Tennessee State Teachers College
The George Washington	N.Y.	A.M. 1948, University of Tennessee Md.
Catholic University of	N.Y.	Ph.D. 1951, University of Chicago Va.
Brooklyn College	N.Y.	Williams, John Marshall Va.
Water George	N.Y.	B.S. 1946, Wisconsin State Teachers College, Eau Claire
Georgia Institute of	N.Y.	Williams, Bennett, Jr. Tenn.
New York University	N.Y.	L.L.B. 1941, The George Washington University
Harvard University	N.Y.	Wilson, Jack Tenn.
Texas Teachers College	N.Y.	L.L.B. 1946, University of Tennessee D.C.
The George Washington	N.Y.	Wilson, Leo Earl D.C.
University	N.Y.	B.S. in E.E. 1948, Carnegie Institute of Technology
University	N.Y.	Wine, Joseph Raymond, Jr. Mont.
University	N.Y.	L.L.B. 1948, Montana State University N.Y.
University	N.Y.	Winegar, Herbert Joseph N.Y.
University	N.Y.	B.E.E. 1950, Cornell University Md.
University	N.Y.	Witcoff, Sheldon William Md.
University	N.Y.	B.S. 1949, University of Maryland N.C.
University	N.Y.	Withers, John Lewis N.C.
University	N.Y.	B.S. 1948, Davidson College N.C.
University	N.Y.	A.M. 1941, University of North Carolina
University	N.Y.	L.L.B. 1940, The George Washington University
University	N.Y.	Witherspoon, Fred Lee, Jr. Md.
University	N.Y.	B.S. in Eng. 1941, University of Maryland
University	N.Y.	Wohlshagen, William McNulty N.Y.
University	N.Y.	R.M.E. 1945, Clarkson College of Technology
University	N.Y.	Wolf, Zev Leopold D.C.
University	N.Y.	B.S. 1941, Northwestern University D.C.
University	N.Y.	Wolfe, Jay Watson D.C.
University	N.Y.	A.B. 1948, The George Washington University
University	N.Y.	Wolf, Louis D.C.
University	N.Y.	A.B. 1945, The George Washington University
University	N.Y.	Wolfschaut, Isabel Elaine N.Y.
University	N.Y.	A.B. 1946, Hunter College M.N. 1950, Yale University

Wolman, Harold B.S. 1942, College of the City of New York	N.Y.	Yaplee, Benjamin Soone B.S. in E.E. 1947, University of Washington	Wash.
Wood, Basil Alexander, Jr. A.B. 1948, University of North Carolina	Va.	Yeager, Philip Brand A.B. 1939, University of Arizona	Hawaii
Wood, Harry Eugene Wood, Thomas Bennett Woodward, Albert Young A.B. 1932, University of Mississippi	S.C. Tex. Calif.	Yim, William Harry A.B. 1949, University of Hawaii	N.Y.
Workinger, George Samuel A.B. 1951, The George Washington University	Md.	Young, David B.M.E. 1949, Cooper Union Young, Edward William B.E.E. 1942, University of Detroit	Va. Maine
Worley, Francis A.B. 1938, Pennsylvania State College LL.B. 1941, Dickinson College	Pa.	Young, John Thomas A.B. 1950, University of Maine	N.Y. Va.
Wortman, David Morris A.B. 1948, The George Washington University	Md.	Z	
Wren, Edgar Alban A.B. 1937, University of Scranton LL.B. 1948, Georgetown University	Pa.	Zeidner, Philip M. A.B. 1938, Middlebury College	Wa.
Wright, Dale Alan B.S. in E.E. 1948, Carnegie Institute of Technology	Tex.	LL.B. 1943, Syracuse University	N.J.
Wright, John Grant B.B.A. 1949, Southern Methodist University	Tex.	Zickert, Lloyd Lynn B.S. in M.E. 1950, Purdue University	Md.
Wright, Loretta Shepherd A.B. 1947, University of Pennsylvania	Pa.	Ziekler, Herman Joseph A.B. 1951, The George Washington University	Va.
Wright, Walter Caldwell, Jr. A.B. 1937, Duke University LL.B. 1939, Temple University A.M. 1950, University of Pennsylvania	N.J.	Ziehl, Wilbur H. A.B. 1949, The George Washington University	Conn.
Wyche, Benjamin Walker III B.S. 1943, Virginia Polytechnic Institute	Va.	Zimmerman, Conrad Hall A.B. 1939, Transylvania College	P.
Wymore, Max Lee B.S. in Ch.E. 1947, University of Kansas	Md.	Zoaraki, Howard Francis B.S. 1950, University of Maryland	D.C. D.C.
Y		Zubeck, John Thomas A.B. 1951, The George Washington University	N.Y.
Yadso, Elias Perfecto A.B. 1949, University of Hawaii	Hawaii	Zuckerman, Martin Jay Zugel, Mary Joan A.B. 1951, The George Washington University	Ill.
		Zwolinski, Richard Mark B.S. 1948, Canisius College LL.B. 1951, Georgetown University	
		Zyblut, Chester Anthony A.B. 1950, De Paul University	

# SUMMARIES OF REGISTRATION

SUMMER TERM 1951

FALL AND SPRING TERMS 1951-52

## GEOGRAPHICAL DISTRIBUTION OF STUDENTS

United States, Territories, and Possessions

Alabama	10	Nevada	7
Alaska	3	New Hampshire	4
Arizona	7	New Jersey	35
Arkansas	21	New Mexico	6
California	9	New York	138
Colorado	20	North Carolina	32
Connecticut	4	North Dakota	3
Delaware	288	Ohio	39
District of Columbia	15	Oklahoma	10
Florida	7	Oregon	4
Georgia	9	Pennsylvania	128
Idaho	41	Rhode Island	8
Illinois	19	South Carolina	7
Indiana	7	South Dakota	6
Iowa	8	Tennessee	10
Kansas	11	Texas	27
Kentucky	4	Utah	11
Louisiana	11	Vermont	2
Maine	189	Virginia	207
Massachusetts	38	Washington	13
Michigan	22	West Virginia	28
Minnesota	6	Wyoming	3
Mississippi	6	Alaska	1
Missouri	19	Hawaii	15
Montana	6	Puerto Rico	2
Nebraska	9		

## Foreign Countries

Iraq	1
Norway	1
Philippines	2

## REGULATES OF COLLEGES REGISTERED IN THE LAW SCHOOL

Allegheny College	1
American University	13
Amsterdam, University of	1
Arizona, University of	3
Arkansas, University of	5
Athens, University of, Greece	1
Augustana College and Theological Seminary	2
Ball State Teachers College	1



Barnard College	1	Davis and Elkins College	1
Baylor University	3	Dayton, University of	1
Belgrade, University of, Yugoslavia	1	Delaware, University of	2
Berea College	2	Denison University	4
Bethany College	2	Denver, University of	1
Bonn, University of, Germany	1	DePaul University	3
Boston College	9	DePauw University	4
Boston Teachers College	1	Detroit, University of	6
Boston University	4	Dickinson College	1
Bowdoin College	5	Drexel Institute of Technology	1
Bowling Green State University	1	Drury College	1
Brigham Young University	4	Dubuque University	17
Brooklyn College	11	Duquesne University	1
Brooklyn, Polytechnic Institute of	1	Duke University	1
Brown University	4	East Carolina Teachers College	1
Bryn Mawr College	1	East Texas State Teachers College	1
Bucknell University	4	El Salvador, University of	1
Budapest, University of	1	Elmhurst College	3
California Institute of Technology	2	Emory University	1
California, University of	2	Erlangen, University of, Germany	1
California, University of, at Los Angeles	4	Evansville College	1
Calvin College	1	Fairmont State College	1
Canisius College	3	Far Eastern University	1
Carnegie Institute of Technology	1	Fenn College	1
Carson-Newman College	1	Florida Southern College	2
Case Institute of Technology	3	Florida State University	4
Catholic University of America	19	Florida, University of	2
Central College	1	Fordham University	1
Central Michigan College of Education	1	Franklin and Marshall College	1
Central State College, Oklahoma	1	Geneva, University of	240
Centre College of Kentucky	1	George Washington University, The	5
Charles, University of, Prague	1	Georgetown University	4
Chicago, University of	6	Georgia Institute of Technology	1
Chattanooga, University of	2	Georgia, University of	1
Cincinnati, University of	4	German State Real Gymnasium, Czechoslovakia	1
Citadel, The	4	Gettysburg College	1
Clark University	2	Goucher College	1
Clarkson College of Technology	1	Grinnell College	1
Clemson College	1	Hanover College	1
Coe College	3	Hardin Simmons University	1
Colgate University	1	Harvard University	1
Colorado Agricultural and Mechanical College	1	Haverford College	1
Colorado State College of Education	1	Hawaii, University of	1
Colorado, University of	5	Hendrix College	1
Columbia University	19	Hofstra College	1
Cologne, University of	1	Holms College	1
Connecticut, University of	4	Holy Cross, College of the	1
Cooper Union	6	Houston, University of	1
Cornell University	20	Hunter College	1
Dartmouth College	6	Idaho State College	1
Davidson College	3	Idaho, University of	1
		Illinois College	1
		Illinois Institute of Technology	1
		Illinois State Normal University	1

University of	13	Midland College	1
State Teachers College	1	Midwestern University	1
University	4	Mines and Metallurgy, College of,	1
University of, Austria	1	Texas	1
College	1	Minnesota, University of	7
State College of Agriculture	3	Mississippi State College	1
and Mechanic Arts	1	Mississippi, University of	3
State Teachers College	6	Missouri, University of	6
State University of	1	Montana State University	4
Law College, Baghdad	1	Morris Harvey College	3
Millikin University	1	Muhlenberg College	2
College	1	Municipal University of Omaha	1
Hopkins University	6	Nazareth College	1
College	1	Nebraska State Teachers College	1
University of, Afghanistan	1	Nebraska, University of	6
College	1	Nevada, University of	2
State College of Agriculture and Applied Science	3	New Hampshire, University of	8
University of	5	New Jersey State Teachers College, Montclair	1
State University	2	New Mexico, University of	4
University of	2	New York State College for Teachers	2
College	1	New York University	22
College	1	New York, College of the City of	27
Valley College	3	Niagara University	1
University	1	North Carolina State College	1
University of	7	North Carolina State Teachers College	1
University of	1	North Carolina, University of	21
Land College of Medicine	1	North Central College	1
State University	6	North Dakota State Teachers College	1
University of	3	Northeastern State College	1
University of, France	2	Northeastern University	4
University of	1	Northern Illinois State Teachers College	1
College	3	Northwestern State College of Louisiana	1
College of the	1	Northwestern University	5
Louis Quezon College	1	Norwich University	3
College	1	Notre Dame, University of	5
University	2	Ohio State University	14
College	2	Ohio University	1
University of	4	Ohio Wesleyan University	3
University of	1	Oklahoma Agricultural and Mechanical College	4
Institute of Tech-	76	Oklahoma City University	1
University of	11	Oklahoma, University of	8
State College	1	Oregon, University of	3
University of	2	Oslo, University of, Norway	1
State College	4	Otterbein College	1
University of	3	Paris, University of, France	1
Tennessee State Teachers	7	Pennsylvania Military College	2
College	19	Pennsylvania State College	23
University	1		
College	1		

Pennsylvania State Teachers College, East Stroudsburg .....	1	Suffolk University .....	1
Pennsylvania State Teachers College, Indiana .....	1	Susquehanna University .....	1
Pennsylvania State Teachers College, Mansfield .....	2	Swarthmore College .....	1
Pennsylvania State Teachers College, Westchester .....	1	Syracuse University .....	1
Pennsylvania, University of .....	18	Szeged, University of, Hungary .....	1
Philippines, University of the .....	1	Temple University .....	1
Phillips University .....	1	Tennessee, University of .....	1
Pittsburgh, University of .....	19	Texas Christian University .....	1
Prague, University of, Czechoslovakia .....	1	Texas State College for Women .....	1
Presbyterian College .....	1	Texas Wesleyan College .....	1
Princeton University .....	10	Texas, University of .....	1
Providence College .....	2	Thiel College .....	1
Puerto Rico, University of .....	2	Toledo, University of .....	1
Purdue University .....	16	Transylvania College .....	4
Queens College .....	1	Trinity College .....	1
Radcliffe College .....	1	Tufts College .....	1
Rice College .....	1	Tulane University .....	1
Rogis College .....	1	Union College and University .....	11
Rensselaer Polytechnic Institute .....	12	United States Coast Guard Academy .....	2
Rhode Island State College .....	3	United States Merchant Marine Academy .....	1
Richmond, University of .....	2	United States Military Academy .....	25
Ramapo College .....	3	United States Naval Academy .....	1
Rochester, University of .....	6	Uppsala College .....	1
Rome, University of, Italy .....	1	Utah State Agricultural College .....	4
Rose Polytechnic Institute .....	3	Utah, University of .....	1
Rutgers University .....	5	Vanderbilt University .....	2
St. Ambrose College .....	2	Vassar College .....	1
St. John's College .....	1	Vermont, University of .....	1
St. John's University, N. Y. ....	2	Virginia, University of .....	1
St. Joseph's College .....	2	Virginia Military Institute .....	25
St. Lawrence University .....	1	Virginia Polytechnic Institute .....	1
St. Martin's College .....	1	Virginia, University of, Poland .....	1
St. Paul College of Law .....	1	Warsaw, University of .....	1
Salem College .....	1	Washburn Municipal University of Topeka .....	1
San Diego State College .....	2	Washington College .....	1
San Francisco, University of .....	2	Washington and Jefferson College .....	1
San Jose State College .....	1	Washington and Lee University .....	4
Scranton, University of .....	12	Washington University .....	1
Seton Hall College .....	2	Washington, State College of .....	1
Shepherd College .....	1	Washington, University of .....	1
Simmons College .....	2	Wayne University .....	1
Smith College .....	4	Webb Institute of Naval Architecture .....	1
South Carolina, University of .....	4	Wellesley College .....	1
South Dakota, University of .....	4	Wesleyan College .....	1
Southern California, University of .....	2	Wesleyan University .....	12
Southern Methodist University .....	1	West Virginia University .....	1
Southwest Missouri State College .....	2	Western Carolina Teachers College .....	1
Southwestern University .....	4	Western Maryland College .....	1
Stanford University .....	3	Western Reserve University .....	1
Stevens Institute of Technology .....	3	Westminster College .....	1
		Whitman College .....	1



# *The Law School*

81

Wittenberg College	4	Wittenberg College	1
Yale University	1	Worcester, College of	2
Jewell College	1	Worcester Polytechnic Institute	5
St. Mary's College of	3	Xavier University	2
Teachers College	2	Yale University	19
State Teachers College	1	Zurich, University of, Switzerland	1
University of	2		
	16	Number of college graduates	1,387
		Number of colleges represented	328

## SUMMARY OF REGISTRATION

### FALL TERM 1951-52

	Men	Women	Total
1st year	502	33	535
2nd year	267	18	285
3rd year	187	18	205
4th year	86	4	90
Students for the degree of Master of Laws	11	2	13
Students for the degree of Master of Comparative Law	2	0	2
Students for the degree of Doctor of Jurisidical Science	34	0	34
Total	1,089	75	1,164

## INDEX

- Academic status of the University, 5-6
- Administration, officers of, 4
- Admission, 16-18
- Advanced standing, 17
- Attendance, 22
- Bachelor of Laws, degree of, 17, 23-24, 27-29
- Calendar of the School, 1952-53, vi
- Classification of students, 24
- Committees of the Faculty, 12-13
- Course numbers, explanation of, 35
- Courses of instruction, 33-42
- Curriculum, Bachelor of Laws and Juris Doctor, 28-32
- Dean's Council, 12
- Degrees, 27-32
  - Conferred, May and Nov. 1951 and Feb. 1952, 43-49
- Doctor of Juridical Science, degree of, 18, 29-30, 31-32
- Emeritus professors, 9
- Employment, student, 25
- Examinations, 22-23
- Exclusion and probation for poor scholarship, 23-24
- Faculty, 9-12
- Fees and financial regulations, 18-20
- Foreign Lawyers
  - Programs of study for, 30
  - Master of Comparative Law degree requirements, 30-31
- Geographical distribution of students, 77
- Grades, 23
- Graduate program, 29-31
- Graduates of colleges registered in the School, 77
- Graduation requirements, 22
- Health Administration, 26
- History of the University, 5-6
- Honors, 27
- Hours of Instruction, 15
- Juridical Science, degree of doctor of, 18, 29-30, 31-32
- Juris Doctor, degree of, 17, 24, 27-29
  - Law Review, 16
  - Library, 15
  - Living accommodations, 25
  - Loan funds, 21
- Master of Comparative Law, degrees of, 18, 24, 30, 31
- Master of Laws, degree of, 17-18, 29-30, 31
- Non-degree study, 30
- Order of the Coif, 16
- Patent law, 28
- Placement, 25, 26
- Prizes, 25
- Practice, training in, 28
- Programs of study, 14, 29-31
- Public Law, research training in, 30-31
- Refund of tuition, 20
- Registration, 20
- Regulations, 21-25
- Residence halls, 25
- Residence requirements, 22
- Right to change rules, 24
- Right to drop students, 25
- Scholarship, 17-18, 23-24, 27, 31-32
- Scholarships, 20-21
- Student:
  - Bar Association, 16
  - Employment, 25
  - Life, 25-26
- Students registered, 1951-52, 50
- Summaries of registration, 77
- Trial Practice Court, 28
- Trustees, Board of, 3
- Unclassified students, 18, 24
- University:
  - Academic status, 5-6
  - Colleges, Schools, and Divisions, 5
  - History, 5
  - Location, 6, 13-14
- Withdrawals and refunds, 20

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1952-53





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THE  
HISTORY OF  
THE  
CITY OF  
NEW-YORK  
FROM  
1609 TO 1812

BY  
JOHN E. BOWNE

IN TWO VOLUMES.

NEW-YORK:  
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1812.



## CONTENTS

CALENDAR OF THE SCHOOL OF EDUCATION.....	vii
THE BOARD OF TRUSTEES OF THE UNIVERSITY.....	1
OFFICERS OF ADMINISTRATION OF THE UNIVERSITY.....	2
THE SCHOOL OF EDUCATION.....	3
Faculty and Staff of Instruction.....	3
General Information.....	6
The Education of Teachers.....	8
Programs Leading to the Degree of Bachelor of Science in Physical Education.....	8
Programs Leading to the Degree of Bachelor of Arts in Education.....	12
Five-year Programs Leading to the Degrees of Bachelor of Arts and Master of Arts in Education.....	23
Programs Leading to the Degree of Master of Arts in Education.....	24
Program Leading to the Degree of Doctor of Education.....	28
Reading Clinic.....	30
Registrations.....	31
Registration.....	31
Fees and Financial Regulations.....	34
Courses of Instruction.....	37
Departments of Physical Education.....	46
Schedule of Evening and Saturday Classes.....	49



CALENDAR

1952-53





# CALENDAR OF THE SCHOOL OF EDUCATION

## 1952-53

Date	Day	Occasion
1952		
FALL TERM: Sept. 24-26	Wednesday through Friday	Registration
Sept. 29	Monday	Academic year begins
Oct. 10	Friday	Thesis subjects of February Master's candidates due
Oct. 11	Saturday	Applications for Doctoral and Master's October comprehensive examinations due
Oct. 17	Friday	Dissertation subjects of May Doctoral candidates due
Oct. 18	Saturday	Comprehensive examinations for Doctoral and Master's candidates
Nov. 11	Friday	Bachelor of Arts activities plans due
Nov. 27-29	Tuesday through Thursday	Fall Convocation. Holiday
Dec. 6	Saturday	Thanksgiving recess
Dec. 22- Jan. 3	Monday through Saturday	Applications for Doctoral and Master's January comprehensive examinations due
Jan. 5	Monday	Christmas recess
Jan. 9	Friday	Classes resume
Jan. 10	Saturday	Last day for applications for degrees to be conferred in February
Jan. 17	Saturday	Theses of February Master's candidates due
Jan. 19-27	Saturday through Tuesday	Dissertations of February Doctoral candidates due
Jan. 20 and Feb. 2	Monday and Friday	Comprehensive examinations for Doctoral and Master's candidates
Feb. 13	Friday	Last day of classes for the fall term
		Fall examination period
		Registration
		Classes resume for the spring term
		Thesis subjects for May Master's candidates due

## CALENDAR OF THE SCHOOL OF EDUCATION—Continued

Date	Day	Occasion
Feb. 23.....	Monday .....	Winter Convocation. Holiday
Feb. 28.....	Saturday .....	Activities plans due from Bachelor of Arts candidates entering the School of Education in February
March 7.....	Saturday .....	Applications for Doctoral and Master's April comprehensive examinations due
March 14....	Saturday .....	Dissertation subjects of November Doctoral candidates due
April 3 and 4....	Friday and Saturday..	Easter recess
April 13.....	Monday .....	Dissertations of May Doctoral candidates due
April 18.....	Saturday .....	Dissertation subjects of February Doctoral candidates due
May 1.....	Friday .....	Doctoral candidates due
May 12.....	Tuesday .....	Comprehensive examinations for Doctoral and Master's candidates
May 13-21..	Wednesday through Thursday .....	Theses of May Master's candidates due
May 24.....	Sunday .....	Last day of classes for the spring term
May 27.....	Wednesday .....	Spring term examination period
SUMMER TERM:		Baccalaureate Sermon
June 1.....	Monday .....	Commencement
June 2.....	Tuesday .....	Registration
June 15.....	Monday .....	Classes begin for the first eight-week session
July 1.....	Friday .....	Registration and the first day of classes of the pre-session
July 6.....	Monday .....	Pre-session ends
July 15.....	Wednesday .....	Registration and first day of classes of six-week session
July 27.....	Monday .....	Applications for Doctoral and Master's July comprehensive examinations due
July 28.....	Tuesday .....	First eight week summer session ends
July 29.....	Wednesday .....	Registration for the second session of the summer term
Aug. 14.....	Friday .....	Comprehensive examinations for Doctoral and Master's candidates
		Classes begin for the second eight-week session
		Six-week session ends



CALENDAR OF THE SCHOOL OF EDUCATION—Continued

Date	Day	Occasion
Aug. 17....	Monday .....	Registration and first day of classes
Sept. 4....	Friday .....	of the post-session
Sept. 7....	Monday .....	Post-session ends
Sept. 18....	Friday .....	Labor Day, Holiday
		Second eight-week summer session ends
		Theses of November Master's candidates due
		Dissertations of November Doctoral candidates due
Sept. 23-25.	Wednesday through Friday .....	Registration for the fall term of the academic year 1953-54



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*U. S. Office of Education*

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\* On national service leave.  
 ‡ On leave of absence 1952-53.



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Blake Smith Root

1954

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Ralph Windsor Ruffner

1955

Frances Kirkpatrick  
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\* The President of the University and the Dean of the School of Education are members ex officio of all committees.  
‡ Elected by the Faculty.

## GENERAL INFORMATION

### INTRODUCTORY

It is the purpose of the School of Education to prepare teachers, supervisors, and administrators for the higher ranges of educational service and to offer opportunities to teachers of experience to extend their education. The School includes the departments of Education, Physical Education, and Home Economics.\* It offers both graduate and undergraduate work. Other departments of the University provide general education and subject-matter courses needed for a well-balanced program of teacher education.

The schedule of courses is arranged to meet the convenience of both full-time and part-time students. By attending evening, Saturday, and summer classes, teachers in the schools of Washington and the vicinity may complete all the requirements for a degree without giving up their positions.

### HISTORICAL DEVELOPMENT

The University began offering professional courses for teachers in 1904-5 and in 1907 it established a Division of Education. In 1909, the Division of Education became the Teachers College which, in its early years, was concerned largely with teacher preparation on the undergraduate level.

In 1928, the Teachers College became the School of Education and greater provision was made for advanced study. Since that time the graduate enrollment has steadily increased with the result that today the School has a considerably larger number of graduate than undergraduate students.

### ADVANTAGES OF STUDY IN THE NATION'S CAPITAL

Washington is rich in the resources needed by teachers to supplement classroom instruction. In addition to the library facilities of the University, the Library of Congress, the Library of the Office of Education, and many special collections provide unexcelled opportunities for reading and research. The operation of all branches of the National Government may be observed. Among the art galleries are the National Gallery of Art, the Corcoran Gallery of Art, the Freer Art Gallery, Phillips Memorial Gallery, and the National Museum. The music calendar of Washington is a full one, and includes concerts by the National Symphony Orchestra, Philadelphia Orchestra, and the Boston

\* The Department of Home Economics offers a curriculum in home-making. Its program is described in a special announcement.

Symphony Orchestra. Those interested in science find many resources for study at the National Museum, the National Zoological Park, the United States Botanic Garden, and the Aquarium of the Fish and Wildlife Service, Department of the Interior. Teachers have unique opportunities to become acquainted with the work of the Office of Education, the National Education Association, the American Council on Education, and many other national organizations with headquarters in Washington.

#### ACADEMIC STATUS

The George Washington University is on the final approved list of the Association of American Universities. This fact not only assures to students the academic standards of this association, but also is important to those who desire to transfer credits from one institution to another.

The University is also accredited by its regional accrediting agency, the Middle States Association of Colleges and Secondary Schools, and is on the approved list of the American Association of University Women.

The School of Education is a member of the American Association of Colleges for Teacher Education and was a charter member of the National Association of Colleges and Departments of Education prior to the merger of that association with others to form the American Association of Colleges for Teacher Education.



# THE EDUCATION OF TEACHERS

## PROGRAMS LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

### BACHELOR OF SCIENCE IN PHYSICAL EDUCATION FOR MEN

There are three curricula leading to this degree. The Single-Major and Subject-Certification Teacher's Course is designed to prepare students for teaching positions in smaller schools where it is necessary to teach an academic subject in addition to physical education. The Single-Major Teacher's Course prepares for the teaching of physical education in the larger schools. The Physical Education and Recreation Course has been planned for those who wish to be prepared to direct programs of recreation in addition to the teaching of physical education.

The following courses, to be taken in the Junior College, are required for admission to the School of Education:

	Credit Hours
English .....	6
English 1-2 .....	6
Social Studies .....	6
History 39-40, 71-72, Political Science 9-10, or Sociology 1-2 (Freshman year) .....	6
Economics, History, or Political Science (Sophomore year) .....	6 or 8
Science .....	3
Biology 1-2 or Zoology 1-2 (Freshman year) .....	9
Physical Education .....	9
Curriculum Electives .....	15
Physical Education 43-44, 47; Speech 1 or 11 (Freshman year) .....	9
Physical Education 45-46, 49, 50, 58; Psychology 1, 22 (Sophomore year) .....	9
Elective .....	68 or 70
Total .....	

The minimum requirements for this degree are 66 credit hours, distributed as follows:

### Single-Major and Subject-Certification Teacher's Course

The minimum requirements for this degree are twenty-one credit hours in education, twenty-four credit hours in physical education, eighteen credit hours in an academic teaching field, and three credit hours in physiology, distributed as follows:

JUNIOR YEAR		SENIOR YEAR	
	Credit Hours		Credit Hours
Learning and Teaching	6	Common Teaching Skills	3
Methods and the School	6	Observation and Practice Teaching	6
Techniques for Teaching Recreational Dance	1	Methods and Materials for Teaching Team Sports in Secondary Schools	4
Principles of Physical Education	3	Methods and Materials of Health Education	3
Corrective Physical Education and Physical Examinations	3	Tests and Measurements in Physical Education	3
Organization and Practice in Teaching Physical Education Activities	4	Organization and Administration of Physical Education	3
Academic teaching field	3	Academic teaching field	11
	7		
Total	33	Total	33

### Single-Major Teacher's Course

The minimum requirements for this degree are twenty-one credit hours in education, twenty-eight credit hours in physical education, three credit hours in physiology, and fourteen credit hours of electives:

JUNIOR YEAR		SENIOR YEAR	
	Credit Hours		Credit Hours
Learning and Teaching	6	Common Teaching Skills	3
Methods and the School	6	Observation and Practice Teaching	6
Techniques for Teaching Recreational Dance	1	Corrective Physical Education and Physical Examinations	3
Principles of Physical Education	3	Methods and Materials of Health Education	3
Organization in the Physical Program	4	Tests and Measurements in Physical Education	3
Organization and Practice in Teaching Physical Education Activities	4	Organization and Administration of Physical Education	3
Methods and Materials for Teaching Team Sports in Secondary Schools	4	Electives	12
	3		
	2	Total	33
Total	33		

## Physical Education and Recreation Course

The minimum requirements for this course are 66 credit hours, distributed as follows:

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Learning and Teaching .....	3	3	Common Teaching Skills .....	3	3
Society and the School .....	6	6	Observation and Practice Teaching .....	6	6
Introduction to Recreation .....	2	2	History and Principles of Physical Education .....	3	3
Techniques for Teaching Recreational Dance .....	1	1	Methods and Materials of Health Education .....	3	3
Leadership Organization in the Intramural Program .....	4	4	Tests and Measurements in Physical Education .....	3	3
Methods and Practice in Teaching Physical Education Activities .....	4	4	Organization and Administration of Physical Education .....	3	3
Camp Leadership .....	1	1	Community Organization for Recreation .....	3	3
Recreational Leadership Activities .....	6	6	Administration of Community Recreation Programs .....	3	3
Electives .....	6	6	Electives .....	3	3
Total .....	33	33	Total .....	33	33

## BACHELOR OF SCIENCE IN PHYSICAL EDUCATION FOR WOMEN

There are three curricula leading to the degree. The Dual-Major Teacher's Course is designed to prepare students for positions in smaller schools where it is necessary to teach an academic subject in addition to Physical Education.

The Single-Major Teacher's Course prepares for the teaching of Physical Education in the larger schools. Within this course there is opportunity for specialization in dance, sports, or correctives.

The Physical Education and Recreation Course has been planned for those who wish to be prepared to direct programs of recreation in addition to teaching Physical Education.

For graduate courses in these areas see Programs of Study for the Degree of Master of Arts in Education, pages 25-28.

The following courses, to be taken in the Junior College, are required for admission to the School of Education:

English .....	English 1-2 .....	6
Social Studies .....	English 51-52, 71-72, or 91-92; History 39-40, 71-72; Political Science 9-10; or Sociology 1-2 .....	6 or 8
Science .....	Biology 1-2 or Zoology 1-2 .....	4
Physical Education .....	Physical Education 43-44 (Freshman year) .....	4
Curriculum Electives .....	Physical Education 45-46, 49, 50; Psychology 1, 22 (Sophomore year) .....	16 or 18
Academic Electives (Each year) .....	.....	6 or 8
Total .....	.....	34 or 36



## Dual- or Single-Major Teacher's Course

The student desiring to prepare herself to teach another subject in addition to Physical Education for Women may do so by choosing her elective hours from one subject-matter field with the advice of the Dean of the School of Education. Relevant work completed in the Junior College may be counted in this subject-matter field.

JUNIOR YEAR		SENIOR YEAR	
	Credit Hours		Credit Hours
Learning and Teaching	6	Society and the School	6
First Aid and Care of Athletic Injuries	2	Observation and Practice Teaching	6
Physical Education in the Elementary School	3	Methods and Practice in Teaching Physical Education Activities	4
Techniques for Teaching Recreational Dance	1	School and Community Health Programs	3
History and Principles of Physical Education	3	Methods and Materials of Health Education	3
Observative Physical Education and Physical Examinations	6	Tests and Measurements in Physical Education	3
Methods and Materials for Teaching Team Sports in Secondary Schools	2	Organization and Administration of Physical Education	3
Methods of Teaching Modern Dance	2	Electives	6
Camp Leadership	1		
Philosophy	3		
Electives	3		
Total	32	Total	34

## Physical Education and Recreation Course

JUNIOR YEAR		SENIOR YEAR	
	Credit Hours		Credit Hours
Society and the School	6	Observation and Practice Teaching	6
First Aid and Care of Athletic Injuries	2	History and Principles of Physical Education	3
Physical Education in the Elementary School	2	Methods and Practice in Teaching Physical Education Activities	4
Techniques for Teaching Recreational Dance	3	Camp Leadership	1
Observative Physical Education and Physical Examinations	1	Organization and Administration of Physical Education	3
Methods and Materials for Teaching Team Sports in Secondary Schools	6	Community Organization for Recreation	3
Methods of Teaching Modern Dance	4	Administration of Community Recreation Programs	3
Camp Leadership	2	Electives	9
Philosophy	2		
Electives	6		
Total	34	Total	32

## PROGRAMS LEADING TO THE DEGREE OF BACHELOR OF ARTS IN EDUCATION

Programs leading to the degree of Bachelor of Arts in Education have three main objectives: (1) provision of a general educational background, (2) a functional command of ideas, concepts, knowledges, and skills in one or more teaching fields, and (3) a mastery of basic professional information and skills adequate for a beginning teacher. Since the contents of teaching fields differ in scope and complexity, some programs are longer than others in terms of credit hours. None require less than 126 credit hours of satisfactory work, exclusive of required Physical Education. Normally, 60 credit hours of the total requirement are completed in the Junior College of the University or in an equivalent institution elsewhere.

### GENERAL EDUCATION

The general educational backgrounds needed by prospective teachers are obtained through: (1) pre-college education, (2) college courses, (3) work experience, (4) leadership activities, (5) participation in student campus activities, and (6) utilization of off-campus cultural opportunities.

*College course requirements.*—Course requirements depend in part upon the senior high school credits presented for college admission. They are as follows:

### ENGLISH

- English 1-2: Freshman English .....  
 Before students are registered in English 1, they are tested in the minimum essentials of vocabulary, spelling, grammar, standard usage, and writing skill. Those students who show marked superiority may, upon passing further tests, be exempted from one or both terms of the Freshman English course; those who are inadequately prepared for English 1 will be assigned to English A. English 1-2 is prerequisite to all other courses in English.  
 One of the following survey courses in literature.....  
 English 51-52: Introduction to English Literature  
 English 71-72: Introduction to American Literature  
 English 91-92: Introduction to European Literature

### FOREIGN LANGUAGES

French, German, Latin, or Spanish.....  
 A student offering for admission four acceptable high school units of a single foreign language, or the equivalent, is not required to take any foreign language. If he offers three units, he must complete the second term of the second-year college course in the same language. If he offers two units, he must complete the entire second-year college course in the same language. If he offers one unit, he must complete the second term of the first-year college course and the entire second-year course in the same language.

SOCIAL STUDIES

History 71-72: The Development of the Civilization of the United States .....	6
Another Social Science chosen from the following courses.....	6
Economics 1-2: Introductory Economics	
Geography 51, 52: Introduction to Geography; World Regions	
History 39-40: The Development of European Civilization	
Political Science 9-10: Government of the United States	
Sociology 1-2: Introductory Sociology	
Recent 50-60: History of Recent	
A student offering for admission two or more acceptable senior high school units in the Social Studies may be exempted from the second part of this requirement.	

SCIENCE AND MATHEMATICS

Two terms of science or mathematics to supplement senior high school courses in these fields and chosen from the following .....	6-8
Biology 1-2: Survey in Biology	
Botany 1-2: Structure and Functions of the Flowering Plant; Survey of the Plant Kingdom	
Chemistry 3-4: Survey of Physical Sciences	
Chemistry 11-12: General Chemistry	
Mathematics 3 and 6: College Algebra; Plane Trigonometry	
Mathematics 6 and 12: Plane Trigonometry; Analytic Geometry	
Physics 5 and 6, or 6 and 7: General Physics	
Zoology 1-2: Introduction to Zoology	

OTHER COURSES

Psychology 1: General Psychology .....	3
Psychology 22: Educational Psychology or	
Psychology 29: Child Psychology .....	3
Speech 1: Effective Speaking or	
Speech 11: Training of the Speaking Voice .....	3
Students who demonstrate marked superiority in Speech may be exempted from this requirement. Such exemption is granted only on the recommendation of the Department of Speech.	
Statistics 53: Introduction to Statistics in Psychology and Education	3

ACADEMIC ELECTIVES

Electives may be increased through the various exemptions

PHYSICAL EDUCATION

Physical Education 1-2 and 11-12  
A student may be exempted from this requirement if registered for less than three courses or regularly employed during the day.

Minimum required credits.....60 or 62  
Work experience, leadership activities, participation in student campus activities, and the utilization of off-campus cultural opportunities.—  
Obviously, these cannot be prescribed. Nevertheless, they constitute an important part of the general educational background of prospective  
for those preparing for elementary school teaching



teachers. In conference with a staff member of the Department of Education assigned as his general adviser, the student is expected to plan adequate experiences in these areas. Not later than one month after matriculation in the School of Education the student must file in the Office of the Dean a statement of such plans approved by his adviser. He must also keep his adviser informed concerning the fulfillment of his plans and to this end include in plans filed, scheduled conferences with his adviser.

Success of the student in enriching his general educational background by these means will be taken into consideration at the end of the first term of the junior year when the faculty will review the qualifications of candidates to determine any who are not of sufficient promise as prospective teachers to warrant continuation of their candidacies. Success in these activities will also be considered when the list of candidates is again reviewed early in the last term of the senior year immediately after the results of the National Teacher Examinations are available. In estimating the success of the student in this connection, more weight will be given to evidence of initiative, eagerness to make the most of each experience, balance, and quality of experience than to the number of different experiences.

Although the student is not required to establish a program of non-academic activities until he becomes a degree candidate in the School of Education, he is advised to do so as soon as he enters the Junior College. To this end, he should consult with the Junior College adviser of students in the pre-Education curriculum soon after entering the Junior College. Whatever is accomplished in this connection while in the Junior College will reduce the obligations of the student after admission to the School of Education.

#### TEACHING-FIELD PREPARATION

Teaching-field preparation depends upon the kind of teaching position for which the student is preparing. Those planning to teach in elementary schools need a degree of competency in several fields. Those preparing to teach in junior or senior high schools must demonstrate competency in a major teaching field and a minor teaching field. Ordinarily, students preparing to teach in evening schools for adults are required to prove competency in only one teaching field.

The student should begin teaching-field preparation while in the Junior College and should make provision for it in planning his program of studies.

Teaching-field requirements include satisfactory completion of prescribed academic courses, a satisfactory score on the special field examination of the National Teacher Examinations, and satisfactory completion of the prescribed special methods course.

Prescribed academic courses vary in number in accordance with the scope and complexity of the teaching field and the license requirements of the various states. Minimum academic course requirements for each major teaching field are listed on succeeding pages. Minor teaching-field requirements are somewhat less than those of a major field. They are determined in conference with an adviser.

The prescribed course in special methods is concerned primarily with methods of initiating, guiding, and evaluating learning experiences dealing with the content of the teaching field. It attempts to bring to the student specific suggestions drawn from the accumulated experience of successful teachers. However, in addition, the course reviews the teaching-field content currently in use in schools and the examination at the end of the course provides the final test of competency in the teaching field.

### Prescribed Courses in the Various Teaching Fields

ART		Credit Hours
One two-term course from the following group.....		6
Art 121-22: World History of Art		
Art 151-52: Modern Art		
Art 161-62: History of Art Criticism		
Two-term courses from the following group.....		6
Art 71-72: Introduction to the Arts in America		
Art 101-2: The Design of the Home		
Art 141-42: Interior Decoration		
Art 43: Folk Arts of America		
Two two-term courses from the following group.....		24
Art 67-68: Life and Portrait—Drawing and Painting		
Art 73-74: Still Life and Portrait—Drawing and Painting; Antique		
Drawing		
Art 165-66: Life and Portrait—Drawing and Painting		
Art 175-76: Composition		
Art 177-80: Sculpture		
Art 183-84: Design and Commercial Art		
Education 141-42: Teaching Art.....		6
Total.....		42

BIOLOGY		
Biology 1-2: Survey in Biology.....		6
Biology 1: Structure and Functions of the Flowering Plant.....		3
Home Economics 152: Nutrition.....		3
Physiology 115: Physiology.....		3
Zoology 1-2: Introduction to Zoology.....		8
Additional courses as approved by the Adviser.....		12
Education 144: Teaching Science.....		3
Total.....		38

## BUSINESS EDUCATION

Accounting 1: Introductory Accounting.....	3
Economics 1-2: Principles of Economics.....	6
Secretarial Studies 51: Business Correspondence.....	3
Additional courses as prescribed in one of the following groups:	
Group 1—Secretarial Studies	
Secretarial Studies 2: Intermediate Typewriting.....	3
Secretarial Studies 12: Intermediate Shorthand and Transcription.....	3
Secretarial Studies 15: Advanced Shorthand, Typewriting, and Transcription.....	3
Secretarial Studies 16: Secretarial Shorthand, Typewriting, and Transcription.....	3
Secretarial Studies 54: Secretarial Practice.....	6
Additional courses from the following as approved by the Adviser	
Accounting 2: Introductory Accounting.....	
Business Administration 101: Business Organization and Combination.....	
Business Administration 109: Office Management.....	
Business Administration 141: Principles of Marketing.....	
Business Administration 151: Retailing.....	
Economics 121: Money and Banking.....	2
Political Science 127: Commercial Law.....	
Statistics 52: Mathematics of Finance.....	
Education 150: Teaching Business Subjects.....	35
Total.....	
Group 2—Bookkeeping, Business Arithmetic, and Business Law	
Accounting 2: Introductory Accounting.....	3
Business Administration 101: Business Organization and Combination.....	3
Business Administration 102: Business Management.....	6
Political Science 127-28: Commercial Law.....	3
Statistics 52: Mathematics of Finance.....	6
Two of the following courses, as approved by the Adviser:	
Accounting 111: Financial Statement Analysis.....	
Business Administration 121: General Insurance.....	
Business Administration 131: Business Finance.....	
Business Administration 138: Investments.....	
Economics 121: Money and Banking.....	2
Education 150: Teaching Business Subjects.....	38
Total.....	
Group 3—Distributive Education	
Business Administration 141: Principles of Marketing.....	3
Business Administration 142: Marketing Problems.....	3
Business Administration 145: Sales Management Problems.....	3
Business Administration 151: Retailing.....	12
Four of the following courses, as approved by the Adviser:	
Business Administration 140: Sales Management.....	
Business Administration 147: Advertising.....	
Business Administration 150: Principles of Purchasing.....	



## The School of Education

17

Business Administration 158: Traffic Management	
Business Administration 175: Introduction to Foreign Trade	
Business Administration 176: Exporting and Importing	
Education 150: Teaching Business Subjects.....	2
Total.....	38

### CHEMISTRY

Chemistry 11-12: General Chemistry .....	8
Chemistry 21: Qualitative Inorganic Analysis.....	4
Chemistry 22: Quantitative Inorganic Analysis.....	4
Chemistry 151-52: Organic Chemistry .....	8
Chemistry 191: History of Chemistry.....	2
One of the following two-term courses.....	8-10
Chemistry 111-12: Physical Chemistry	
Biochemistry 221-22: Biochemistry	
Education 144: Teaching Science.....	3
Total.....	37-39

### ELEMENTARY EDUCATION

Education 113: Elementary School Art.....	3
Education 114: Elementary School Music.....	3
Education 128: Children's Literature .....	3
Science as Approved by the Adviser.....	12-14
Geography 51: Introduction to Geography.....	3
Geography 52: World Regions .....	3
Physical Education 101: Physical Education in the Elementary School	
Political Science 9-10: Government of the United States.....	6
Total.....	39-41

### ENGLISH

English 1-2: Freshman English .....	6
English 52: Introduction to English Literature.....	3
English 71-72: Introduction to American Literature.....	6
English 125: The Evolution of Modern Speech.....	3
English 135-36: Shakespeare .....	6
Speech 11: Training the Speaking Voice.....	3
Three of the following term courses with approval of Adviser.....	9
English 126: The Appreciation of Literature	
English 151-52: The Romantic Movement	
English 161-62: Victorian Literature	
English 165-66: The Twentieth Century	
English 171-72: Studies in American Literature	
English 173-74: Major American Poets	
English 176: American Drama	
English 177-78: American Fiction	
English 182: The English Novel	
English 199: Proseminar	
Education 136: Teaching English .....	3
Total.....	39

## FRENCH

French 1-2: First-year French .....	6
French 3-4: Second-year French .....	6
French 9-10: French Conversation and Composition .....	6
French 51-52: Survey of French Literature .....	12
Additional courses in French as approved by the Adviser .....	3
Education 146: Teaching Foreign Languages .....	39
Total .....	

## GEOGRAPHY

Geography 51: Introduction to Geography .....	3
Geography 52: World Regions .....	3
Geography 71: Historical Geography of the United States .....	3
Geography 72: Political Geography of the United States .....	2
Geography 103-4: Cartography .....	3
Geography 113: Geomorphology .....	6
Geography 114: Weather and Climate .....	
Two of the following term courses .....	
Geography 181: Anglo-America .....	
Geography 183: Northwest Europe .....	
Geography 184: Mediterranean Region .....	
Geography 191: Middle America .....	
Geography 192: South America .....	6
Geography 195: Eastern and Southern Asia .....	
Geography 198: Australia and the Pacific .....	
Two of the following term courses .....	
Geography 125: Trade and Transportation .....	
Geography 126: Strategic Materials .....	
Geography 127: Industrial Geography .....	
Geography 128: Agricultural Geography .....	
Geography 131: Conservation of Natural Resources .....	
Geography 132: Land Use .....	
Geography 141: Geography of Settlement .....	3
Geography 142: Urban Geography .....	
Geography 161: Geography of Soils .....	39
Education 138: Teaching the Social Studies .....	
Total .....	

## GERMAN

German 1-2: First-year German .....	6
German 3-4: Second-year German .....	6
German 115-16: Survey of German Literature .....	6
German 121-22: Conversation and Composition .....	12
Additional courses in German as approved by the Adviser .....	3
Education 146: Teaching Foreign Languages .....	39
Total .....	

## HISTORY

History 39-40: The Development of European Civilization .....	6
History 71-72: The Development of the Civilization of the United States .....	0

## The School of Education

19

Six credit hours, as approved by the Adviser, from each of the following groups

Group 1—American History	18
History 171-72: Social History of the United States	
History 173: Representative Americans	
History 174: Economic History of the United States	
History 181-82: Diplomatic History of the United States	
Group 2—European History	
History 119: Thought and Culture of the Western World III; from the Reformation through the Age of Reason	
History 120: Thought and Culture of the Western World IV: Intellectual Aspects of the Modern Age	
History 130: Nationalism	
History 145-46: Russian History	
History 147: Economic History of Europe	
History 148: Oversea Expansion of Europe	
History 149-50: European Diplomatic History	
History 151-52: English History	
Group 3—Latin American History	
History 161-62: Latin American History	
Political Science 175: International Politics in the Western Hemisphere	
Political Science 176: Current Trends in Latin American Politics and Government	
Additional credit hours, as approved by the Adviser from one of the following groups	6
Education 138: Teaching the Social Studies	3
Total	39

### MATHEMATICS

Mathematics 3: College Algebra	3
Mathematics 6: Plane Trigonometry	3
Mathematics 12: Analytic Geometry	3
Mathematics 19: Differential Calculus	3
Mathematics 20: Integral Calculus	3
Mathematics 125: Advanced Algebra	3
Mathematics 132: Differential Equations, or Advanced Calculus	3
Mathematics 139: Advanced Calculus	3
Mathematics 140: Mathematics as approved by the Adviser	3
Mathematics 52: Mathematics of Finance	3
Education 140: Teaching Mathematics	3
Total	30

### PHYSICS

Physics 5, 6, 7, and 8: General Physics	12
Physics 55: Physical Measurements	2
Physics 101: Mechanics	3
Physics 105: Principles of Electricity	3
Physics 106: Optics	3
General Elective—Chemistry 11-12: General Chemistry or General Chemistry and Qualitative Inorganic	8



Mathematics 12:	Analytic Geometry.....	3
Mathematics 19:	Differential Calculus.....	3
Mathematics 20:	Integral Calculus.....	3
Six credit hours	to be selected from the following.....	6
Physics 102:	Heat and Thermodynamics.....	
Physics 113:	Atomic Physics.....	
Physics 114:	Statistical Physics.....	
Physics 128:	Sound.....	
Physics 132:	Electronics.....	3
Physics 155-56:	Advanced Physical Measurements.....	49
Education 144:	Teaching Science.....	

Total..... 6

#### SOCIAL STUDIES

History 39-40:	The Development of European Civilization.....	6
History 71-72:	The Development of the Civilization of the United States.....	6
Political Science 9-10:	Government of the United States.....	12
Two of the following courses.....		
Economics 1-2:	Introductory Economics.....	
Geography 51, 52:	Introduction to Geography and World Regions.....	
Religion 50-60:	History of Religions.....	
Sociology 1-2:	Introductory Sociology.....	
Additional second-group courses as approved by the Adviser from one of the following fields: Economics, Geography, History, Political Science, Religion, Sociology.....		12
Education 138:	Teaching Social Studies.....	3

Total..... 45

#### SPANISH

Spanish 1-2:	First-year Spanish.....	6
Spanish 3-4:	Second year Spanish.....	6
Spanish 9-10:	Spanish Conversation and Composition.....	6
Additional courses as approved by the Adviser.....		18
Education 146:	Teaching Foreign Languages.....	3

Total..... 39

#### SPEECH

Speech 1:	Effective Speaking.....	3
Speech 2:	Extensive Speaking.....	3
Speech 11:	Training the Speaking Voice.....	3
Speech 32:	Oral Reading.....	
Speech 101:	Voice and Phonetics.....	
Speech 131:	Group Discussion and Conference Leadership.....	
Speech 153:	Play Production.....	

or  
Speech 175: Speech Correction.....  
Education 136: Teaching English.....  
One of the following areas of specialization as approved by the Adviser:

## The School of Education

21

Group 1—Public Speaking.....	18
Speech 131: Group Discussion and Conference Leadership.....	18
Speech 136: Public Discussion and Debate.....	
Speech 143: Persuasion.....	
Speech 145-46: History and Criticism of Public Address.....	
Speech 148: Speeches for Special Occasions.....	
Group 2—Speech Correction.....	18
Speech 175: Speech Correction (if not elected above).....	
Speech 176: Speech Correction.....	
Speech 177-78: Clinical Practice in Speech Therapy.....	
Speech 180: Speech Pathology.....	
Speech 182: Introduction to Hearing Problems.....	
Speech 183-84: Clinical Practice in Hearing Therapy.....	
Additional courses in English, Physiology, Psychology, or Speech to total 12 credit hours, as approved by the Adviser.....	36 or 37
Total.....	

### PROFESSIONAL EDUCATION

The basic professional information and skills needed by beginning teachers are provided through four one-year courses, two in each of the junior and senior years. Lectures and class discussions are closely coordinated with field work. Instruction is differentiated to meet the needs of those preparing to teach on the various levels—elementary school, junior high school, senior high school, and adult.

#### Professional Courses

Education 109-10: Learning and Teaching.....	6
Education 111-12: Elementary School Curriculum.....	6
Education 121-22: Society and the School.....	6
Education 131: Common Teaching Skills.....	3
Education 133-34: Observation and Practice Teaching.....	6
Education 136 to 150: Special Methods.....	2-6
Total.....	29-33

**Learning and Teaching.**—Candidates enrolled in four-year programs leading to the degree of Bachelor of Arts take this course in the junior year. Those enrolled in five-year programs take it in the senior year. The course attempts to promote a functional understanding of the nature of learning and teaching—characteristics of learning and principles of teaching are presented and discussed in the two one-hour class meetings each week. At least an equal amount of time is spent in observation and study of the application of these characteristics and examples to classroom situations. Class discussion normally revolves around these field experiences. The course is also intended to provide the student with exploratory experiences of assistance to him in deciding whether to choose the pro-

Education 109-10: Learning and Teaching.....  
Education 111-12: Elementary School Curriculum.....  
Education 121-22: Society and the School.....  
Education 131: Common Teaching Skills.....  
Education 133-34: Observation and Practice Teaching.....  
Education 136 to 150: Special Methods.....

fession of teaching. The student's performance in connection with the course is one of the factors considered when the Faculty reviews the list of candidates who have completed the first term of the junior year (senior year for those enrolled in five-year programs).

*Society and the School.*—This course is also taken in the junior year by candidates enrolled in four-year programs (senior year by those in five-year programs).

The first term of the course attempts to promote an understanding and appreciation of the role of schools in the sound promotion of the enduring interests of our democratic society. More particularly, it attempts to develop a functional understanding of the contributions of all social agencies in the education of people and of desirable cooperative working relations that help the school to play its part as a member of the institutional "team" of the community.

The second term of the course is concerned with study of the school as a whole—its purposes, program of studies, out-of-class activities, general organization, and major instructional problems. Although schools at all levels are studied, students give particular attention to schools at the level within which they are preparing to teach.

During both terms of this course classes meet for lecture and discussion two hours a week. At least an equal amount of time is spent in field study. During the first term each student studies cooperating social institutions. In the second term extended study of schools at the level of the student's special interest is supplemented by briefer studies of schools at other levels. Class discussion is largely determined by field experiences.

This course is also intended to provide the student with exploratory experiences of guidance value. The performance of the student in the first term of the course is also given careful consideration by the Faculty in its review of the list of candidates at the beginning of the second term of the junior year (senior year for those enrolled in five-year programs).

*Common Teaching Skills.*—Those enrolled in four-year programs take this course in the senior year. Those enrolled in five-year programs take it in the fifth year.

The course is concerned with the skills needed by teachers in connection with classroom management, teaching techniques, homeroom procedures, administrative routines, activity sponsorship, group planning, and public relations.

Classes meet three hours a week for lecture, discussion, and laboratory. The observation of classroom teaching done in connection with the Observation Course (Education 133), for which students are normally enrolled concurrently, provides the field work of the course.



**Special Methods Courses.**—Associated with each teaching field is a course dealing with its special teaching problems. In addition to the study of practices followed by successful teachers, actual teaching content as found in current texts and courses of study is reviewed. Needed content, not included in academic courses available for teaching-field preparation, is taught in these courses.

**Observation and Practice Teaching.**—This course is taken in the senior year by students enrolled in four-year programs (in the fifth year by those in five-year programs). It begins with the observation of classroom teaching in selected situations. Assumption of responsibility for teaching functions is gradual, leading eventually to practice in the complete direction of classroom activities. Those preparing to teach in secondary schools have the opportunity of observing and doing practice teaching in both major and minor teaching fields on the senior high school level. The course is supervised by full time members of the faculty of the School of Education. The work of each student is under the direct supervision of a staff teacher, selected because of unusual success in teaching, ability to supervise, and broad understanding of educational problems. Criticism and observation are done in the public schools of the metropolitan area of Washington, assuring practice in situations comparable to those the student is likely to face on becoming a teacher.

#### ADMISSION

To be admitted to candidacy for the degree of Bachelor of Arts in Education, the applicant must: (1) hold an Associate in Arts degree or an approved normal school or the equivalent; (2) have a grade-point index of 2.00 (average grade of C) counting "Incomplete" as "F"; (3) have demonstrated a genuine interest in teaching and possess personality traits that give promise of success as a teacher; and (4) have an interview in the Office of the School of Education.

**FIVE-YEAR PROGRAMS LEADING TO THE DEGREES OF BACHELOR OF ARTS AND MASTER OF ARTS IN EDUCATION**  
Five-year programs are designed: (1) to permit more adequate teaching and professional preparation, (2) to prepare for special teaching positions, and (3) to meet teaching-certificate requirements based on five years of preparation.

Students in these programs usually devote the junior year to additional teaching-field preparation and general education. Ordinarily,

teaching field preparation is continued in the senior year and the first two professional courses (Education 109-10, 121-22) are taken. The work of the fifth year includes the remaining undergraduate professional courses and the balance of graduate courses needed to meet the requirements of the degree of Master of Arts.

Candidates must have a quality-point index of at least 2.50 before beginning the work of the senior year. As much as 18 credit hours of the work of the senior year may be taken for graduate credit. Observation and Practice Teaching, taken in the fifth year, may not be taken for graduate credit.

Candidates enrolled in five-year programs are able to prepare more adequately in their major or minor teaching fields, or in both. Additional teaching-field courses must be approved by the Adviser in the teaching field concerned.

The five-year plan of study also provides an opportunity for candidates to prepare to teach "common learnings" courses in one or more of the various core curriculum plans now being adopted in many secondary schools. Such programs need to be carefully planned to meet the demands of the situation in which the candidate hopes to teach.

A number of cities and some states require five years of satisfactory preparation before issuing certain teaching certificates. Candidates seeking such certificates should familiarize themselves with the requirements of the community or state concerned and plan their programs accordingly.

Five-year programs must meet all the requirements of the degrees of Bachelor of Arts and Master of Arts in Education, and must be approved by the Adviser designated for these programs.

#### PROGRAMS LEADING TO THE DEGREE OF MASTER OF ARTS IN EDUCATION

Programs of study leading to the degree of Master of Arts are designed: (1) to enable teachers of experience to increase their knowledge of professional and academic information and skills, (2) to prepare for special types of educational service, and (3) to provide opportunities for graduates of liberal arts colleges to acquire needed professional education.

Programs are planned in conference with the designated Adviser and take into consideration the interests of the candidate, his previous background, and the certification requirements of the state and locality in which he plans to teach.

#### PLANS OF STUDY

Two general plans of study lead to the degree.

*Plan 1.*—This plan requires a minimum of 30 hours of graduate credit, including a thesis carrying 6 hours of graduate credit.



Plan 2.—This plan requires a minimum of 33 hours of graduate credit, including a course in *Educational Research Methods and Procedures* carrying 3 hours of graduate credit.

Graduate work completed in other accredited institutions of learning may be credited toward the Master's degree, but a minimum of 30 credit hours must be completed in the School of Education of The George Washington University. Not more than nine credit hours of the minimum thirty-hour requirement may be taken in off-campus courses.

Advanced courses completed in excess of the requirements for the Bachelor's degree in this University may be credited toward the Master's degree to the extent of 12 credit hours, provided the work fits in with the student's plan of specialization and is approved in writing by the Dean before being undertaken.

In determining advanced standing at the time of admission or re-admission to Master's candidacy at this University, graduate work completed more than three years previously is not counted.

Under Plan 1, a minimum of 12 credit hours, in addition to the thesis, must be from courses planned primarily for graduate students (third-group courses). Under Plan 2, a minimum of 18 credit hours, in addition to the course in *Educational Research Methods and Procedures*, must be from third-group courses. Under either plan a minimum of 12 credit hours, not including the thesis or the research course, must be from courses offered in the Department of Education.

Programs may provide for additional academic preparation in one or more teaching fields. In such cases, however, undergraduate and graduate courses combined must be at least equivalent to the undergraduate requirements for the degree of Bachelor of Arts in Education in the teaching field concerned.

Programs are normally based upon undergraduate preparation equivalent to the requirements of the degree of Bachelor of Arts in Education (pages 12-13). Candidates with less professional preparation must make up their deficiencies either prerequisite to or as part of their graduate study.

Each candidate must file in the Office of the Dean not later than one month after admission to the School of Education a program of study approved by his Adviser.

All candidates must take, at one of the designated periods, a comprehensive examination in two parts: (1) a general examination concerned with an integrated understanding of the major areas in professional education and (2) a special examination concerned with the candidate's area of specialization.



**PROGRAMS OF STUDY****School Administration—Secondary School Principalship, or Elementary School Principalship**

Programs of those interested in the position of principal customarily include The American School System, The Teacher in School Supervision, and one of: Secondary School Management, or Administration of Elementary Education. Additional courses are chosen as needed from Adult Education, Curriculum, Elementary Education, Guidance, Public Relations, School Finance, School Law, School Plant Planning, and Secondary Education.

**Adult Education**

Programs of those particularly interested in the education of adults may or may not include additional teaching-field preparation. In addition to six credit hours of work in Adult Education professional courses may be chosen from Audio-visual Education, Curriculum, Employee Training, Evaluation, Guidance, History of Education, Mental Hygiene, and Philosophy of Education.

**Secondary Education—Senior or Junior High School**

Those who desire additional teaching-field preparation may combine advanced subject-matter courses in an academic field with professional courses. Programs usually include six credit hours of work in Secondary Education with additional courses chosen from Audio-visual Education, Curriculum, Extra-classroom Activities, Guidance in Secondary Schools, Philosophy of Education, Research, and Vocational Education.

**Elementary Education—Intermediate Grade or Early Childhood Education**

Programs customarily include one of: Elementary Education, or Early Childhood Education with additional courses chosen from Child Growth and Development, Children's Literature, Curriculum, Evaluation, History of Education, Mental Hygiene, Philosophy of Education, Reading Problems, and Speech Correction.

**Agricultural Extension Education**

These programs are designed for those with successful experience in agricultural extension education. Six or more credit hours of work are devoted to agricultural extension education, by special arrangement with the Extension Service of the United States Department of Agriculture. The remainder of the program is planned in accordance with the

interests and needs of the candidate and usually includes courses in Supervision, Adult Education, and Secondary Education. Courses in Administration, Curriculum, Evaluation, Group Leadership, Guidance, Personnel Psychology, Research, Speech, and Statistics may also be chosen.

### Curriculum

Programs of those interested in specializing in curriculum development include six credit hours of work in Curriculum with additional courses chosen from Adult Education, Audio-visual Education, Child Growth and Development, Course of Study Construction, Elementary Education, Evaluation, Extra-classroom Activities, and Secondary Education.

### Employee Training

Programs for those interested in the training of employees in business, industry, and government normally include courses in Employee Training and Adult Education. Additional courses are chosen from Audio-visual Education, Curriculum, Guidance, Mental Hygiene, Personnel Psychology, Philosophy of Education, Public Relations, and Techniques of Counseling.

### Guidance

Programs for those especially interested in guidance usually include courses in Educational and Vocational Guidance, Techniques of Counseling, Guidance in Secondary Schools, and Occupational and Educational Information. Additional Courses frequently chosen include Adult Education, Curriculum, Employee Training, Evaluation, Individual Psychological Testing, Personnel Psychology, Philosophy of Education, Psychological Tests, Secondary Education, and Test Construction.

### Physical Education

Programs of candidates who have had undergraduate training in Physical Education may include twelve credit hours of work in Health Education, Physical Education, and Recreation. Four graduate courses: *Problems in Physical Education*, *Problems in Health Education*, *Evaluation in Physical Education*, and *Physical Education for the Atypical*, are offered, two each year in alternate years. Certain undergraduate courses may also be taken for graduate credit. These are available in the areas of Camping, Dance, Physical Education, and Recreation. As a rule these programs include six credit hours of work in Secondary Education. Additional courses are chosen from Audio-visual Education, Curriculum, Extra-classroom Activities, Guidance, Philosophy of Education, Public Relations, and Supervision.

If *Plan 1* is followed the thesis problem may be from the field of Physical Education.

#### ADMISSION

To be admitted to candidacy for the degree of Master of Arts in Education the applicant must: (1) hold a Bachelor's degree from an accredited institution; (2) have an undergraduate quality-point index of 2.50 or above (C + average); (3) have demonstrated a genuine interest in teaching; (4) be in possession of personality traits that give promise of better-than-average success as a teacher.

To be admitted to candidacy in programs designed to prepare for service in guidance and administration two years of successful teaching experience are prerequisite. Candidates who have had no professional courses must satisfactorily complete the required undergraduate professional courses, including Observation and Practice Teaching, in addition to graduate course requirements.

#### PROGRAM LEADING TO THE DEGREE OF DOCTOR OF EDUCATION

The requirements for the degree of Doctor of Education cannot be stated in credit hours, but they consist in general of at least two full years of work beyond the degree of Master of Arts in Education or the equivalent. The programs of study are designed to prepare students for administrative or supervisory positions, the teaching of education in normal schools or colleges, the teaching of an academic subject in schools or colleges, or for specialized types of educational service. The work is given a practical rather than a theoretical bent, and emphasizes the mastery and application of subject matter, both in the study requirements and in the dissertation. Special emphasis is placed upon the professional success of the candidate.

The candidate's program of study depends for the most part upon his previous educational background and his professional objective. Opportunities are provided for study leading to the following professional objectives:

School Superintendent  
Secondary School Principal  
Elementary School Principal  
Supervisor

Director of Guidance  
Director of Curriculum Development  
Professor of Education  
Specialist in Educational Research

#### QUALIFICATIONS OF THE APPLICANT

The candidate for the degree of Doctor of Education must have completed (1) graduate work in fields prerequisite to his objective, equiva-



lent to that required for the degree of Master of Arts in Education in The George Washington University, and (2) at least three years of successful educational experience.

#### ADMISSION TO CANDIDACY

To be admitted to candidacy for the degree the applicant must be accepted by the Faculty of the School of Education on the basis of an examination conducted by a committee appointed by the Dean. This examination will usually include the following: (1) a written examination involving problems related to the applicant's background; (2) a scholastic-aptitude test; (3) an oral examination.

#### CONSULTATIVE COMMITTEE

If the applicant is accepted as a candidate, his consultative committee, in cooperation with the candidate, will (1) determine the candidate's field of study, in each of which the candidate must pass a written examination at least eight months before he presents himself for the degree; (2) formulate a list of course requirements and of readings that will assist him in preparing for these examinations; and (3) designate the tools of investigation that will be needed by the candidate in the prosecution of his study. These tools may include one foreign language, or more, statistical methods, historical criticism, or any others considered essential by the committee. An examination in the tools designated must be passed by the candidate before he takes his comprehensive examination.

#### THE DISSERTATION

When the candidate has satisfied the requirements of his consultative committee, the committee is dissolved. A member of the faculty, in the field the topic of the dissertation falls, is then appointed to serve as the candidate's adviser on his dissertation and in his field of specialization, and to recommend him to the Dean for the final oral examination when, in his judgment, the candidate's dissertation is acceptable. Not later than the date specified in the University calendar the candidate shall submit to the Dean of the School of Education four copies of his dissertation—one typewritten original and three legible and complete carbon copies, on official thesis paper—and also a typewritten summary of the dissertation consisting of not more than 2,500 words. Requirements regarding the form of the dissertation are stated in the dissertation catalogue and additional information will be supplied by the Dean. The successful candidate is required, before receiving his degree, to pay a fee to cover the expense of printing the summary of his dissertation.

### THE FINAL EXAMINATION

At least three weeks before the degree is to be conferred the candidate must pass an oral examination on his dissertation and on his field of specialization before a committee of the Faculty appointed by the Dean, supplemented by two experts from outside the University appointed by the President. This examination is open to the public and all are privileged to question the candidate. The Dean, or a member of the Faculty designated by him, will preside at this examination.

### READING CLINIC

To help children and adults with reading difficulties the University operates a diagnostic reading clinic. Children may be referred by principals, teachers, or parents. Adults may apply by telephone.

To arrange for a clinical examination of reading status, address The George Washington University Reading Clinic, 802 Twenty-first Street, NW., or telephone NAtional 5200, Extension 491, for an appointment. The Clinic is open for appointments Monday through Friday, from 9:00 A.M. to 12:00 noon.

A complete diagnostic examination usually requires three sittings. When completed, a written report is given and a conference arranged at which disabilities are discussed in detail and suggestions for corrective work are outlined. The fee is \$25.

## REGULATIONS

*Students in the School of Education are subject to, and are expected to familiarize themselves with, the general University regulations stated in the University catalogue.*

### REGISTRATION

Before a student may be admitted to registration he must have satisfied the Office of the Director of Admissions that he is qualified for entrance to the University.

A student who has previously matriculated in the University, but who has not been in attendance during the term prior to registration, should file an application for readmission in advance of registration.

Registration is for the term unless otherwise indicated on the registration paper. No registration is accepted for less than a term or one term session.

A student may not register concurrently in The George Washington University and another institution without the permission of the Dean. Allowance of credit for work done concurrently will be at the discretion of the Committee on Admission and Advanced Standing.

### AMOUNT OF WORK

A normal program of work for an undergraduate student is sixteen to nineteen credit hours. A student with a quality-point index of 3.00 or higher may, with the Dean's permission, take nineteen hours. More than nineteen hours may not be taken except by special permission of the Committee on Scholarship.

For an employed student ten credit hours constitute a normal program. A student with a quality-point index of 3.00 or higher for the preceding term may be permitted by the Dean to take twelve or thirteen credit hours.

For a graduate student twelve credit hours, exclusive of the thesis, constitute a normal program. An employed student may not take more than nine credit hours.

### ATTENDANCE

A student is not permitted to attend classes until registration has been completed and fees due have been paid. Regular attendance is required. A student may be dropped from any course for undue absence.

A student who has been suspended, either for delinquency in payment of fees or for any other reason, is not permitted to attend classes during the period of suspension.



## WITHDRAWAL

Withdrawal from a course or from the University, *without academic or financial penalty*, requires the permission of the Dean. Permission to withdraw from the University will not be granted a student who has not a clear financial record.

Withdrawal between October 31 and the end of the fall term and between February 28 and the end of the spring term is permitted only in exceptional cases.

*All charges for courses dropped without the approval of the Dean must be met by the student. Reporting the dropping of a course to an instructor does not effect its discontinuance.*

## CHANGES IN PROGRAM OF STUDIES

A student may not change or drop courses or change his status to that of auditor except with the approval of the Dean upon presentation of adequate reasons for such changes.

Change from one section to another of the same course or from one major subject to another within the same college or school may be made with the approval of the Dean. All requirements specified in the course of study to which the change is made must be satisfied before graduation.

Transfer from one college, school, or division to another may be made only with the approval of the deans concerned. Applications for such change should be made on the proper form, obtainable in the Office of the Director of Admissions, where it should be filed.

## SUMMER SCHOOL CREDIT

A student who plans to attend summer school sessions at another institution with the intention of having credits so obtained apply toward graduation from this University must first secure the written approval of the Dean. In no event will such credits be recognized to an amount in excess of that which might be earned in a similar period in this institution.

## GRADUATION REQUIREMENTS

To be recommended for graduation a student must have met the admission requirements of the college or school in which he is registered, completed satisfactorily the scholarship, curriculum, residence, and other requirements for the degree for which he is registered, and be free from all indebtedness to the University.

*Application for Graduation.*—Application for a degree should be filed in the Office of the Registrar at the time of registration for the last term of the senior or final year.

*Scholarship.*—The undergraduate student must maintain a quality-point index of at least 2.00.

The graduate student must maintain a quality-point index of 3.00.

*Residence.*—A minimum of one year, or thirty credit hours, including at least twelve credit hours in the major field, must be completed in residence. Not more than nine credit hours of the residence requirement may be satisfied by off-campus courses. Summer term work may be counted in residence, but in no case may the period of residence aggregate less than thirty weeks. Unless special permission is granted by the Dean to pursue work elsewhere, the work of the senior or final year must be completed in residence.

The graduate student must meet the residence requirements for the particular degree for which he is registered.

With the permission of the Dean a student may be granted leave of absence; such student should, however, remain technically in residence by paying the residence fee for each term he is absent. For the purpose of this regulation, the summer sessions will not be considered a term.

*Attendance and Conduct.*—The University reserves the right to refuse to confer a degree upon a candidate whose attendance or conduct has been unsatisfactory.

*Presence at Graduation.*—A candidate is required to be present at the graduation exercises unless written application for graduation in absentia is approved by the Dean.

### THE LIBRARY

A student registered in the University is entitled to the reference use of the University Library. The University Membership Card, issued upon the payment of fees, must be presented as identification. Library books, with the exception of those in the Law and Medical collections, may be drawn for home use for a period of two weeks. Any book which does circulate is subject to recall by the Librarian at any time. Reserve books and periodicals for collateral reading must be used in the reading rooms when the Library is open. With special permission they may be drawn for overnight use when the Library closes. A fine of twenty-five cents will be charged for the first hour or fraction of an hour and five cents for each hour or fraction thereafter that a reserve book is overdue. Grades of a student will be withheld until his library record is clear.

### HOURS

The University Library is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday.



## FEES AND FINANCIAL REGULATIONS

By authorization of the Board of Trustees, the following fees have been adopted:

## TUITION FEES

For each credit hour for which the student registers (except work taken by a candidate for a Doctor's degree).....	\$14.00
For the degree of Doctor of Education.....	420.00
For work leading to and including the general examination.....	420.00
For work leading to and including the final examination.....	420.00

## ADDITIONAL COURSE FEES

In certain courses additional fees, such as laboratory and material fees, are charged as indicated in the course descriptions. These fees are charged by the term and, unless otherwise indicated, may be defrayed in three payments when the tuition is paid in this manner. Breakage of apparatus is charged against the individual student. When breakage is in excess of the normal amount provided for in the laboratory fee the individual student will be required to pay such additional charges as are determined by the department concerned.

## GRADUATION FEE

## FEE FOR BINDING MASTER'S THESIS

.....	20.00
.....	5.00
.....	50.00

FEE FOR PRINTING AND FILING SUMMARY OF DOCTORAL DISSERTATION	1.00
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## SPECIAL FEES

Application fee, charged all applicants for admission, non-refundable	5.00
Late-registration fee, charged each student who fails to register within the designated period.....	5.00
Withdrawal fee, charged each student who preregisters and withdraws prior to the regular registration.....	1.00
Service fee, charged each student for late payment of tuition (see "Payment of Fees").....	5.00
Reinstatement fee, charged each student who is reinstated after suspension for delinquency in fees.....	14.00
Residence fee, charged each student wishing to maintain "in residence" status during any term of absence from the University or after completion of tuition requirements.....	2.00
For special physical examination.....	5.00
For each examination to qualify for advanced standing and for each special examination.....	2.00
Laboratory checkout fee, charged all students in chemistry and pharmacy courses who fail to check out of the laboratory by the time set by the instructor.....	1.00
Transcript fee, charged for each transcript of record after the first	

Registration in the University entitles each student to the following University privileges: (1) the issuance of three certified transcripts of record, if and when desired; (2) the services of the Employment Office; (3) the use of University library facilities, except as otherwise designated; (4) gymnasium privileges; (5) admission to all athletic contests, unless otherwise specified; (6) subscription to the *University Hatchet*, the student newspaper; (7) admission to University debates; (8) medical attention and hospital services as described in the General Catalogue. These privileges, however, with the exception of the issuance of tran-



scripts, terminate, and a student is no longer in residence, when he withdraws or is dismissed from the University.

#### PAYMENT OF FEES

All fees are payable at the Office of the Cashier, 725 Twenty-first Street NW. No student is permitted to complete registration or to attend classes until all fees are paid. Fees for each term are due and payable in advance at the time of registration.

In exceptional cases, subject to the approval of the Comptroller, the student may sign a contract for term charges, except for fees payable in advance, permitting payments as follows:

*Fall Term.*—One third at the time of registration; one third on November 3; one third on December 3.

*Spring Term.*—One third at the time of registration; one third on March 3; one third on April 3.

A student who fails to meet payments when due, but who pays his dues on or before the tenth day of the month in which payment is due, is charged a service fee of \$1. A student who fails to meet payments on the tenth day of the month in which payment is due will be automatically suspended and may not attend classes until he has been officially reinstated and has paid all accrued fees and a reinstatement fee of \$5. A student suspended for failure to meet payments when due may not be reinstated for the term after two weeks from the date of suspension. Reinstatement for the term after two weeks from the date of suspension. An auditor pays all fees chargeable to the student registered for the term except the late-registration fee.

#### WITHDRAWALS AND REFUNDS

Application for withdrawal from the University or for change in class schedule must be made in person or in writing to the Dean. Notification by an instructor is not an acceptable notice. Authorized withdrawals and changes in schedules, financial adjustments will be made as follows:

*Fall Term.*—Withdrawal dated on or before October 31, cancellation of two-thirds of tuition charges; withdrawal dated on or before November 30, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to November 30.

*Spring Term.*—Withdrawal dated on or before February 28, cancellation of two-thirds of tuition charges; withdrawal dated on or before March 31, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to March 31.

In no case will a refund be made of the first third of the total tuition charges unless the registration is in advance and the course is dropped before the regular registration day. In this case a withdrawal fee of \$5 is charged and tuition fees refunded. In no case will tuition be reduced or refunded because of nonattendance upon classes.

Payment applies only to the term for which a registration charge is incurred and in no case will this payment be credited to another term.

Any student in chemistry who fails to check out of the laboratory on or before the date set by the instructor, unless excused by the instructor, will be charged a checkout fee in the amount of \$2. A student who drops a course before the end of the term must check out of the laboratory at the next regular laboratory period.

Any student enrolled in the Air Force Officers' Training Corps who fails to turn in uniforms, equipment, and textbooks, on separation from the Corps, will be charged the value of the missing items.

Authorization to withdraw and certification for work done will not be given a student who has not a clear financial record.

All charges for courses dropped without the approval of the Dean must be met by the student. Reporting the dropping of a course to an instructor does not effect its discontinuance.

#### RIGHT TO DISMISS STUDENTS

The right is reserved by the University to dismiss or exclude any student from the University, or from any class or classes, whenever, in the interest of the student or the University, the University Administration deems it advisable to do so.

#### RIGHT TO CHANGE RULES

The University and its various colleges, schools, and divisions reserve the right to modify or change requirements, rules, and fees. Such regulations shall go into force whenever the proper authorities may determine.

## COURSES OF INSTRUCTION

The University reserves the right to withdraw any course announced.

### EXPLANATION OF COURSE NUMBERS

An odd number preceding the name of the course indicates that the course is offered in the fall term; and an even number, that it is offered in the spring term. The letter "x" following an odd course number (e.g., 295x) indicates that the course, normally offered in the fall term, is given in the spring term. The letter "x" following an even course number indicates that the course, normally offered in the spring term, is given in the fall term.

*First-group courses.*—Courses numbered from 1 to 100 are planned for students in the freshman and sophomore years. With the approval of the Adviser and the Dean, they may also be taken by juniors and seniors. In certain instances, they may be taken by graduate students to make up undergraduate deficiencies or as prerequisite to advanced courses, but they may not be credited toward a higher degree.

*Second-group courses.*—Courses numbered from 101 to 200 are planned for students in the junior and senior years. They may be credited toward higher degrees only when registration for graduate credit has been approved at the beginning of the course by the Dean of the School of Education and by the officer of instruction concerned, and upon the completion of additional work has been certified by the officer of instruction.

*Third-group courses.*—Courses numbered from 201 to 300 are planned primarily for graduate students. They are open, with the approval of the officer of instruction, to qualified seniors.

### INDICATION OF THE AMOUNT OF CREDIT

The number of credit hours given for the satisfactory completion of a course is indicated in parentheses after the name of the course. Thus, a year course giving three hours of credit each term is marked (3-3), and a term course giving three hours of credit is marked (3).

### DEPARTMENT OF EDUCATION

Courses offered by the Department of Education are of two types: those designed for the preservice education of candidates and those designed for the inservice education of teachers. Inservice courses devote two fifty-minute periods a week to lecture and discussion supplemented by a minimum of two hours a week of field work. A clinical approach to the study of educational



problems is used, lectures and discussions revolving around observed practices.

Inservice courses usually meet only once a week for a two-hour period. Class work is supplemented by extensive reading assignments, the preparation of reports, and field work. A student enrolled in one of these courses should plan to devote not less than seven hours a week, exclusive of class time, to the work of the course.

Ample opportunity is provided to study teaching or administrative problems of special interest. To enable students to consult with instructors regarding individual problems, a conference hour is scheduled immediately before or after the class period.

Only the courses designed to provide professional information and skills are listed below. For courses needed for general education or teaching-field preparation, see the general catalogue. In addition to courses offered in the Department of Education a number of professional courses for teachers are offered in the departments of Psychology, Speech, and Statistics. These are listed below together with courses offered by the Department of Education.

Whenever possible, the exact hour of class meeting is stated. Hours for classes not yet scheduled may be found in the Schedule of Classes for the term concerned.

#### FIRST GROUP

##### Education A *Reading Clinic*

Diagnosis of reading difficulties; individual or group lessons without academic credit for alexia, dyslexia, and remedial cases. Fee: for diagnosis, \$25; for individual lesson, \$3.50; for group lesson \$2.50; material fee, \$3. Coleman and Staff

##### Psychology 22 *Introduction to Educational Psychology (3)*

Consideration of individual and group differences, adjustments, and the psychology of learning in relation to education and training. Morning. Psychology 22x, same as 22, offered fall term. Tues. and Thurs., 6:10 to 7:25 P.M. Faith

##### Psychology 29 *Child Psychology (3)*

A genetic approach to the study of the child. Special emphasis is placed on the socialization process, learning, and the child's view of the world. Tues. and Thurs., 7:35 to 8:50 P.M. Phillips

Psychology 29x, same as 29, offered spring term. Morning.

##### Statistics 53 *Introduction to Statistics in Psychology and Education (3)*

Sources of data, tabulation, charts and graphs, averages, dispersion, quartiles and percentiles, raw scores and derived scores, profiles, norms and their use, frequency distributions, intelligence and other quotients, reliability and validity of tests, normal curve, correlation, elementary sampling, statistical error, limitations of statistics. Prerequisite: one entrance unit in algebra. Laboratory fee, \$6. Lecture—section A: Tues. and Thurs., 10-10 A.M.; section B: The Staff

B: Mon. and Wed., 6:10 P.M.; laboratory—section M: Thurs., 2:10 to 3:50 P.M.; section N: Tues., 4:10 to 5:50 P.M.; section P: Mon., 8:10 to 9:50 P.M.  
Statistics 53x, same as 53, offered spring term. Morning and evening sections.

## SECOND GROUP

Statistics 105 *Statistics in Psychology and Education* (3) Rosander  
Advanced study of correlation and frequency analysis, sampling theory, factor analysis, and applications to specific problems utilizing case method of study insofar as possible. Original work is required of each student. Prerequisite: Statistics 53. Laboratory fee, \$6. Lecture—Tues and Thurs., 7:10 P.M.; laboratory—Thurs., 8:10 to 9:50 P.M.

Education 109-10 *Learning and Teaching* (3-3) Ruffner  
For the general student as well as the prospective teacher. Fall term: nature of learning approached through the study of actual classroom situations. Spring term: nature of teaching approached through observation of typical classroom situations. Section A: lecture—Wed and Fri., 2:10 P.M., conference hour—Mon., 2:10 P.M.; section B: lecture—Wed and Fri., 6:10 P.M., conference hour—Mon., 6:10 P.M.; field work (2 hours) to be arranged. Also offered 1952 summer term—Education 109(3)

Education 111-12 *Elementary School Curriculum* (3-3) Burnett  
Principles of elementary education, including general classroom procedures and common teaching skills. Fall term: special emphasis upon materials and methods in language arts, including reading, writing, spelling, and speech. Spring term: special emphasis upon materials and methods in social studies, science, and arithmetic. Mon., Wed., and Fri., 5:10 P.M.

Education 113 *Elementary School Art* (3) Randall  
Materials and methods. Tues., 7:35 to 9:35 P.M.

Education 114 *Elementary School Music* (3) Reed  
Materials and methods. Thurs., 7:35 to 9:35 P.M.

Education 115 *Elementary School Classroom Procedures* (3)  
For experienced teachers. Survey of current classroom practices with particular attention to the determination of children's needs and interests, and for individual differences, and evaluation. (Not offered in 1952-)

Education 116 *Elementary School Social Studies* (3) Welshans  
For experienced teachers. Content and methods of teaching. Offered summer term 1952.

Education 117 *Elementary School Science* (3)  
Materials and methods. (Not offered in 1952-53.)

Education 121-22 *Society and the School* (3-3)  
For the general student as well as the prospective teacher. Fall term: the national and international roles of education, cooperation of the school with other community agencies. Spring term: organization and operation of the school. Principles and functions. Section A: lecture—Tues. and Thurs., 7:10 P.M., conference hour—Mon., 2:10 P.M.; section B: lecture—Tues. and Thurs., 6:10 P.M., conference hour—Mon., 6:10 P.M.; field work (2 hours) to be arranged. (Also offered 1952 summer term—Education 121(3)—

**Psychology 121 Educational Psychology (3)**

Advanced course in Educational Psychology. Open each term on the individual study plan to a limited number of students. Time to be arranged. Summer term 1952. Faith

**Education 125 Corrective Procedures in Reading (3)**

Study of levels, needs, materials, and corrective methods. Demonstrations and observations with clinic cases. Summer term 1952. Coleman

**Education 128 Children's Literature (3)**

Exploring and evaluating the newer books for children and the children's classics, understanding the contribution of literature in child development, appreciating children's original expressions. Tues., 7:35 to 9:35 p.m.; field work (2 hours)—to be arranged. Walker

**Psychology 129 Introduction to Counseling and Guidance (3)**

A survey of the basic principles, techniques, and procedures as applied to vocational, educational, and personal counseling. Thurs., 6:10 to 8:50 p.m. Dreese

**Education 131 Common Teaching Skills (3)**

Course, unit, and lesson planning; practical techniques used in connection with motivation, the assignment, group procedures, directing study, individual differences, evaluation, clerical routines, discipline, the homeroom, activity sponsorship, public relations. Tues. and Thurs., 12:45 to 2:00 p.m. Root

**Psychology 131 Psychological Tests (3)**

A survey of psychological tests and their more common uses in business, industry, government, law, medicine, and education. Material fee, \$5. Tues. and Thurs., 11:10 a.m. to 12:25 p.m. (Also offered 1952 summer term.) Hunt

**†Education 133-34 Observation and Practice Teaching (3-3)**

Education 134, practice-teaching fee, \$9 a credit hour. Admission by permission of the instructor. Time to be arranged individually. Root, Burnett

**Psychology 144 Personnel Psychology (3)**

The applications of psychology to personnel work in education, business, industry, and government. Afternoon. (Also offered 1952 summer term.) Mosel

Psychology 144x, same as 144, offered fall term. Mon. and Wed., 5:45 to 7:00 p.m.

**SPECIAL METHODS COURSES**

To be elected in the senior year after substantial preparation in the teaching fields concerned. Course requirements and hours of credit vary with license requirements. Practices of successful teachers are studied and actual teaching content as found in current texts and courses of study is reviewed.

† A dagger (†) preceding the number of a year course, indicates that the course may not be entered in the second term and that credit will not be given until the work of both terms has been completed.



- Education 136 *Teaching English* (2 to 4)  
Tues., 7:35 to 9:35 P.M.; field work (2 hours) to be arranged. Lumsden
- Education 138 *Teaching Social Studies* (2 to 4)  
Mon., 7:10 to 9:10 P.M.; field work (2 hours) to be arranged. Root
- Education 140 *Teaching Mathematics* (3)  
Tues., 5:10 to 7:00 P.M. Weida
- Education 141-42 *Teaching Art* (3-3)  
Sat., 9:10 to 11:00 A.M.; field work (2 hours) to be arranged. Goodwin
- Education 144 *Teaching Science* (2 to 4)  
Thurs., 5:10 to 7:00 P.M.; field work (2 hours) to be arranged. Rumbough
- Education 146 *Teaching Foreign Languages* (2 to 4)  
Tues., 5:10 to 7:00 P.M. Doyle, Keating
- Education 148 *Teaching Home Economics* (2)  
Time to be arranged. Kirkpatrick
- Education 150 *Teaching Business Subjects* (2)  
Time to be arranged. Shott
- Speech 175-76 *Speech Correction* (3-3)  
A study of the causes of the disorders of speech with emphasis on methods of diagnosis and treatment of defective speech. Prerequisite: Speech 11 and 12, or permission of the instructor. Laboratory fee: \$5 a term. 175: Mon., and Wed., 5:10 to 6:25 P.M. Pettit

### THIRD GROUP

- Education 205-6 *The Curriculum* (3)  
Fall term: curriculum foundations and issues; comparison of curriculum practices. Spring term: principles and procedures in curriculum development. Group consideration of student problems. Fri., 7:10 to 9:10 P.M. Also offered 1952 summer term—Education 205(3)—Marinaccio. Burnett
- Education 207 *Curriculum Materials* (3)  
The study and construction of courses of study, resource units, classroom materials, and inexpensive materials; direct application to students' own situations. (Not offered in 1952-53.) Burnett
- Education 209-10 *Child Growth and Development* (3-3)  
Basic factors in human growth and development and their relation to learning and teaching. Related practical experience in studying children; class reports of procedures and results. Sat., 11:10 A.M. to 1:00 P.M. (Also offered 1952 summer term—Education 209(3)—Marinaccio.)
- Education 212 *Evaluation in Education* (3)  
Concept of evaluation, relationship between evaluation of ends and means, steps involved in the evaluation of learning outcomes. As the course progresses each student develops a solution for an evaluation problem related to a specific situation. Thurs., 7:35 to 9:35 P.M. (Also offered 1952 summer Ruffner

**Education 213-14 History of Education (3-3)**

Fall term: the European backgrounds of American education. Spring term: the evolution of the American school system. Tues., 7:35 to 9:35 P.M. Jarman

**Education 215 Education of the Exceptional (3)**

For classroom teachers. A survey of current problems in the education and guidance of exceptional pupils. Nature and needs of those physically, mentally, or emotionally handicapped; needs of the gifted. Resources for help in correction, diagnoses, therapy, education, and guidance. Indorf

Summer term 1952.

**Education 217-18 Contemporary Problems in Education (3-3)**

Fall term: designed to help students formulate a personal philosophy of education. Spring term: social foundations of education—a study of the forces that shape the policies and offerings of the school. Mon., 7:10 to 9:10 P.M. (Also offered 1952 summer term—Education 218(3).) Jarman

**Education 219 Recent Developments in Elementary Education (3)**

New areas of emphasis, changing techniques of working with children, curriculum trends, review of recent literature. Welshans

Summer term 1952.

**Education 221-22 Early Childhood Education (3-3)**

Fall term: nursery school and kindergarten education. Spring term: education in the primary grades. (Not offered in 1952-53.) Tutthill

**Psychology 223 Seminar: Learning (3)**

Covers theories of learning. Mon., 7:10 to 9:00 P.M. Coleman

**Education 223-24 Reading Problems (3-3)**

A clinical approach to reading difficulties on elementary and secondary school levels. Demonstrations and observations, with clinic cases. Sat., 9:10 to 11:00 A.M., conference hour—11:10 A.M. Phillips

**Psychology 225 Seminar: Mental Hygiene (3)**

A survey of the recent literature in social psychology and anthropology as they relate to the impact of society on the mental hygiene of the individual. Individual mental health problems are viewed in terms of the social context in which they occur and are treated. Burnett

Summer term 1952.

**Education 227-28 Elementary Education (3-3)**

Fall term: elementary school programs, objectives, common characteristics and major issues. Spring term: current methods and materials in teaching the several instructional areas and the co-curriculum. Mon., 7:10 to 9:10 P.M. Drees

**Psychology 227x Seminar: Counseling and Guidance (3)**

Recent developments and current problems in vocational, educational, and personal guidance in various types of agencies with particular reference to education. Prerequisite: educational or psychological measurements and Psychology 129 or the equivalent. Evening.



**Psychology 228 Seminar: Techniques of Counseling (3)** Dreese  
Specific types of vocational, educational, and personal counseling problems approached through the case method. Prerequisite: recent previous course in counseling and guidance and familiarity with individual analysis methods. Evening. (Also offered 1952 summer term.)

**Psychology 229x Seminar: Occupational and Educational Information (3)**  
Designed to acquaint vocational and educational counselors with the basic occupational and educational information necessary in counseling. Sources of data and techniques of collecting, analyzing, and disseminating for purposes of guidance. Evening.

**Education 229 Administration of Elementary Education (3)** Burnett  
The principal as a school and community leader. Problems of supervision, curriculum development, parent relations, pupil guidance, and management. Tues. 9:10 to 11:00 A.M.

**Education 231 Secondary School Classroom Procedures (3)** Bish  
Survey of current classroom practices with particular attention to selected types such as teacher-pupil planning, group procedures, pupil security, initiation and culminating activities, individual and group evaluation techniques, learning aids, etc.; review of recent literature. Tues., 7:35 to 9:35 P.M. (Also offered 1952 summer term.)

**Psychology 231 Test Construction (3)** Hunt  
The principles underlying test construction; statistical techniques in the construction, evaluation, and standardization of psychological, educational, and vocational tests. Prerequisite: a course in tests and measurements and course in statistics. Tues., 7:35 to 9:25 P.M.

**Psychology 232x Research: Test Construction (3)** Hunt  
Individual projects in construction and evaluation of psychological, educational, or vocational tests. Prerequisite: Psychology 231. Open each term to an individual study plan to a small number of students by permission of instructor. Time to be arranged.

**Education 233 Audio-visual Education (3)** J. Johnson  
Selection and use of audio-visual aids; management of materials and equipment. Material fee, \$5. Lecture—Sat., 11:10 A.M. to 1:00 P.M. Laboratory—Fri., 1:10 P.M. to 3:30 P.M. (Also offered 1952 summer term.)

**Psychology 233 Individual Psychological Testing (3)** Phillips  
Theory and practice in giving the Binet Test and the Wechsler-Bellevue Test. Emphasis is placed on testing children and adolescents. Prerequisite: elementary course in tests and measurements. Material fee, \$5. Fri., 1:10 P.M. to 3:30 P.M.

**Psychology 233x, same as 233, offered spring term. Afternoon.**

**Education 247-48 Vocational Education** Ruffner, H. Johnson  
The development in the United States, current concepts, agencies in-  
volvement, and trends. Spring term: learning and teaching activities,



curriculum content, administration of vocational programs. (Not offered in 1952-53.)

Education 251 *Guidance in Secondary Schools* (3) Brougher  
Scope; needs; organization of the program; services to students, the instructional staff, and the administration; personnel needed for the program.  
Wed., 7:10 to 9:10 P.M.

Education 254 *The Junior High School* (3) Bish  
Purposes, organization, core programs, guidance, developing course of study, extra-classroom activities.  
Summer term 1952.

Education 255-56 *Secondary Education* (3-3) Root  
Fall term: current proposals for the reorganization of secondary education.  
Spring term: current problems in each of the subject-matter fields. Sat., 11:10 A.M. to 1:00 P.M. (Also offered 1952 summer term.)

Education 259-60 *Secondary School Management* (3-3) Fox, H. Johnson  
Management planning, execution, and control; criteria of good management; construction of the master schedule; leadership problems incident to the development of new policies and programs. Sat., 9:10 to 11:00 A.M.

Education 263-64 *Employee Training* (3-3) Root  
Fall term: nature and purposes, organization and administration of programs—orientation, executive, supervisory, apprentice, clerical skills; training media and techniques; coordination with other management functions.  
Spring term: current practices, operating policies, and programs of selected organizations. Thurs., 7:35 to 9:35 P.M.

Education 271 *School Administration* (3) Fox  
A survey course for teachers and prospective administrators. Education and world affairs, national agencies, role of the state, local administration, school finance legal controls, school plant, public support, democratic administrative procedures, improving teaching conditions. Wed., 7:10 to 9:10 P.M.

Education 272 *The Teacher and School Supervision* (3) Fox  
Nature, organization, human relationships, and techniques. Wed., 7:10 to 9:10 P.M. (Also offered 1952 summer term)

Education 273-74 *Administration of a School System* (3-3)  
A comprehensive survey of the management problems of a beginning superintendent; does not anticipate previous experience as a superintendent. (Not offered in 1952-53.)

Education 275 *School Finance* (3) Fox  
Educational financial theory, practice, and control, including methods of financing. (Not offered in 1952-53.)

Education 276 *Seminar: Public Relations in School Administration* (3)  
Purposes, gathering materials, disseminating agencies, publicity media, public participation in policy-making. (Not offered in 1952-53.)

Education 278 *School Law* (3)

Remmlein

Sources and scope of school law; legal rights and responsibilities of teachers, pupils, and taxpayers. Other legal problems of major interest to the group. (Not offered in 1952-53.)

Education 279-80 *Adult Education* (3-3)

Ruffner

Fall term: current concepts and objectives, agencies involved, programs on all levels—international through community. Spring term: the adult as a learner, the teacher of adults, learning-teaching activities, administration of adult education programs. Mon., 7:10 to 9:10 P.M.

Education 281 *Group Procedures in Education* (3)

Ruffner

Theory, practice, evaluation, and application to all educational levels. Thurs., 7:35 to 9:35 P.M. (Also offered 1952 summer term.)

Education 285 *Extra-classroom Activities* (3)

Root

Nature and purposes of selected activities—homeroom, clubs, assemblies, school publications, student council, interscholastic contests; particular attention to sponsorship, participation, finance, and evaluation. Summer term 1952

Education 287-88 *Clinical Study of Reading Problems* (3-3)

For advanced students. Diagnostic work under supervision in the Reading Clinic. Admission by permission of the instructor. (Not offered in 1952-53.)

Education 291 *Planning the School Plant* (3)

Hamon

Selection of site; evaluation of existing buildings; utilization of present facilities; adaptation to curricular needs; building, operation, and maintenance problems. (Not offered in 1952-53.)

Education 293-94 *Research* (3-3)

The Staff

Individual research under the guidance of a member of the Staff. Program and conferences arranged with an instructor.

Education 295 *Educational Research Methods and Procedures* (3)

Fox

Required of all Master of Arts candidates following Plan 2. Knowledge of elementary statistics required. Tues. and Thurs., 6:10 P.M. (Also offered 1952 summer term.)

Education 295x, same as 295, offered spring term. Fri., 5:10 to 7:00 P.M.

Education 297 *Reading in Education*

The Staff

To assist those preparing for the comprehensive examination. No credit toward degree requirements. Tuition fee: \$14. Wed., 5:10 P.M. (Also offered 1952 summer term.)

Education 297x, same as 297, offered spring term. Wed., 5:10 P.M.

Education 299-300 *Thesis* (3-3)

The Staff

Required of all Master of Arts candidates following Plan 1. Time to be arranged.

## DEPARTMENTS OF PHYSICAL EDUCATION

The following courses are offered by the Department of Physical Education for Men and the Department of Physical Education for Women. Whenever possible the departments offer lecture courses jointly.

## FIRST GROUP

- 43-44 *Techniques of Physical Education Motor Activities* (2-2) The Staff  
Fundamental skills, rules, and organization. Locker and towel fee,\* \$3 a term. Morning and afternoon sections.
- 45-46 *Methods and Materials for Teaching Individual and Dual Sports in Secondary Schools* (2-2) Hanken, Krupa, Tate  
Tennis, golf, archery, swimming, wrestling, badminton, bowling. Locker and towel fee,\* \$3 a term. Mon. and Fri., 1:10 to 3:00 P.M.
- 47 *Introduction to Physical Education* (2) Myers  
An orientation course presenting the problems of physical education, vocational analysis, scientific foundations, and scope of field. Tues. and Thurs., 8:10 A.M.
- 48 *Introduction to Recreation* (2) Myers  
The role of recreation in modern living; current practices in community recreation work; standards of training, experience, and salary; types of leadership. Time to be arranged.
- 49 *Human Anatomy* (3) Tate  
The structure of the human body. Basic course for physical education majors. Also open to both men and women not majoring in physical education. Prerequisite: Biology 1-2 or Zoology 1-2. Mon., Wed., and Fri., 9:10 A.M.
- 50 *Kinesiology* (3) Tate  
A study of the anatomical mechanism of movement, analysis of the action of muscles in physical education activities. Prerequisite: an approved course in anatomy. Morning.
- 58 *First Aid and Care of Athletic Injuries* (2) Myers, Lawrence  
Prevention and emergency care of injuries of all types, with special reference to first aid, bandaging, and massage. A practical course. Prerequisite: Biology 1-2 or Zoology 1-2. Afternoon.

## SECOND GROUP

- 101 *Physical Education in the Elementary School* (3) Burtner  
Physical growth and development of the child and adolescent. Survey of age characteristics and organization of physical education activities.

\* The locker and towel fee is required for registration in one or more of the activity courses.



for the various age levels in elementary school, playground, and settlement house programs. Methods and materials of tumbling, games, rhythms, and self-testing activities. Thurs., 7:35 to 9:35 P.M.

102 *Techniques for Teaching Recreational Dance (1)* Burtner

Methods and materials for teaching the country and social dances of America and the folk dances of other countries to secondary-school age and adult groups. Square-dance calling is included. Afternoon.

103 *History and Principles of Physical Education (3)* Atwell

Survey of history as it relates to contemporary physical education. Study of aims, objectives, and philosophy of physical education. Tues. and Thurs., 8:45 to 10:00 A.M.

105-6 *Corrective Physical Education and Physical Examinations (3-3)* Lawrence

Cause and correction of faulty body mechanics, physical examination methods for the diagnosis of postural defects, prescription of exercises and program adaptation. Prerequisite: Biology 1-2 or Zoology 1-2. Mon., Wed., and Fri., 11:10 A.M.

109-10 *Leadership Organization in the Intramural Program (2-2)* Krupa

Principles of administration, organization, and supervision of intramural activities in the physical education program of the junior high school, senior high school, and college. Wed., 1:10 to 3:00 P.M.

113-14 *Methods and Practice in Teaching Physical Education Activities (2-2)* The Staff

Principles and methods applied to learning and teaching physical education activities. Supervised laboratory. Morning and afternoon sections.

115-16 *Methods and Materials for Teaching Team Sports in Secondary Schools (2-2)* The Staff

Section A (women): field hockey, basketball, softball, soccer, speedball, volleyball. Tues. and Thurs., 1:10 to 3:00 P.M. Section B (men): football, basketball, baseball, track and field. Afternoon. Locker and towel fee,\* \$3 a term.

118 *Methods of Teaching Modern Dance (2)* Burtner

Techniques for the teaching of movement as a medium of expression. Practical work in body technique, composition, and the analysis of accompaniment for dance including instrumental, voice, and percussion. Application is made to both secondary-school and adult age levels. Afternoon.

121 *School and Community Health Programs (3)* Lawrence

Health services, healthful environment, health instruction, sources of material for general health knowledge. Prerequisite: Biology 1-2 or Zoology 1-2. Tues. and Thurs., 11:10 A.M. to 12:25 P.M.

\*The locker and towel fee is required for registration in one or more of the activity courses.

- 122 *Methods and Materials of Health Education* (3) Atwell  
Organization and presentation of health materials for each age level.  
Prerequisite: Biology 1-2 or Zoology 1-2. Morning.
- 131 *Tests and Measurements in Physical Education* (3) Atwell  
Critical survey of tests in physical activities, methods of test construction, elementary statistics. Tues. and Thurs., 1:30 to 2:25 P.M.
- 132 *Camp Leadership* (1) Atwell  
Survey course in camp counseling. Afternoon.
- 133-34 *Observation and Practice Teaching* (3-3) Atwell, Myers  
Assignments are made to schools in Washington and the vicinity.  
Practice teaching fee, \$9 a credit hour. Time to be arranged.
- 136 *Survey of Dance History and Dance Forms* (3) Burtner  
The development of dance from primitive ritual to present day recreational and art forms of the dance. Includes ethnologic dance, practice and discussion of fundamental movement techniques and composition.  
Evening.
- 138 *Organization and Administration of Physical Education* (3) Atwell, Myers  
Organization and administration of physical education programs in elementary and secondary schools and in colleges. Study of plants, fields, equipment, and programs. Morning.
- 151-52 *Recreational Leadership Activities* Christiansen  
(1-3, 1-3)  
Fall term: basic skills for the pre-school and school-age child. Laboratory practice in crafts, music, dramatics, physical and social activities. Spring term: basic skills for the teen-age and adult. Arts and crafts, dramatics, physical and social activities. 1952-53 and alternate years. Wed., 7:35 to 9:35 P.M.
- 161 *Community Organization for Recreation* (3)  
Resources, principles, and methods in organizing community recreation services. 1953-54 and alternate years, evening.
- 162 *Administration of Community Recreation Programs* (3)  
Factors and problems in administering recreation including surveys, legislation, program, area, facilities, leadership, finance, and public relations. 1953-54 and alternate years, evening.

## THIRD GROUP

- 211 *Problems in Physical Education* (3) Anderson  
For experienced teachers. Organization, supervision, and curriculum problems growing out of current issues; program planning policies; competition. 1952-53 and alternate years, Tues., 7:35 to 9:35 P.M.

- 220 *Problems in Health Education* (3) Kilander, Maxwell  
Health needs; policies and program planning; use of community resources; promising practices in the field. 1952-53 and alternate years, evening.
- 231 *Evaluation in Physical Education* (3)  
Planning the evaluation program; review of outcomes; analysis of tests and standards; administration and interpretation of tests; guidance. 1953-54 and alternate years, evening.
- 240 *Physical Education for the Atypical* (3)  
Adaptations of activities to meet the special needs of students with physical disabilities resulting from such conditions as postural deviations, cardiac irregularities, operations, and poliomyelitis. 1953-54 and alternate years, evening.

## SCHEDULE OF EVENING AND SATURDAY CLASSES

## FALL TERM 1952-53

- Monday Evening 7:10 to 9:10  
Education 217 Contemporary Problems in Education  
Psychology 223 Seminar: Learning (to 9:00)  
Education 227 Elementary Education  
Education 279 Adult Education
- Tuesday Evening 7:35 to 9:35  
Education 113 Elementary School Art  
Education 213 History of Education  
Psychology 231 Test Construction (to 9:25)  
Education 231 Secondary School Classroom Procedures
- Wednesday Evening 7:10 to 9:10  
Education 251 Guidance in Secondary Schools  
Education 271 School Administration
- Thursday Evening 6:10 to 8:50  
Psychology 129 Introduction to Counseling and Guidance
- Friday Evening 7:35 to 9:35  
Education 263 Employee Training  
Education 281 Group Procedures in Education
- Saturday Evening 7:10 to 9:10  
Education 205 The Curriculum
- Saturday Morning 9:10 to 11:00  
Education 141 Teaching Art  
Education 223 Reading Problems  
Education 229 Administration of Elementary Education  
Education 259 Secondary School Management



**Saturday Morning 11:10 to 1:00**

Education 209 Child Growth and Development  
Education 233 Audio-visual Education  
Education 255 Secondary Education

**SPRING TERM 1952-53****Monday Evening 7:10 to 9:10**

Education 138 Teaching Social Studies  
Education 218 Contemporary Problems in Education  
Education 228 Elementary Education  
Education 280 Adult Education

**Tuesday Evening 7:35 to 9:35**

Education 128 Children's Literature  
Education 136 Teaching English  
Education 214 History of Education

**Wednesday Evening 7:10 to 9:10**

Education 272 The Teacher and School Supervision

**Thursday Evening 7:35 to 9:35**

Education 114 Elementary School Music  
Education 212 Evaluation in Education  
Education 264 Employee Training

**Friday Evening 7:10 to 9:10**

Education 206 The Curriculum

**Saturday Morning 9:10 to 11:00**

Education 142 Teaching Art  
Education 224 Reading Problems  
Education 260 Secondary School Management

**Saturday Morning 11:10 to 1:00**

Education 210 Child Growth and Development  
Education 256 Secondary Education







THE GEORGE WASHINGTON UNIVERSITY  
WASHINGTON, D. C.

Report of the Comptroller

FOR THE YEAR ENDED

AUGUST 31, 1952



### SCHEDULES

1	Current Operating Income	20
2	Current Operating Expense	22
3	Accounts Receivable and Prepaid Expense	29
4	Assets of Loan Funds	40
5	Assets of Endowment Funds—Controlled by the University	41
6	Endowment Funds—Held in Trust by Others	42
7	Assets of Plant Funds	49
8	Land and Buildings	50
8	Trust Notes Payable	52
9	Equipment	59
10	Current Funds Restricted—Organized Research	60
	"                      "                      Investment Income	62
	"                      "                      Miscellaneous Funds	68
	"                      "                      Agency Funds	72
11	Changes in Principal of Loan Funds	74
12	Changes in Principal of Endowment Funds	75
13	Changes in Principal of Plant Funds	76

### APPENDIX

Gifts and Grants	84
Description of Loan Funds	86
Description of Endowment Funds	88
Description of Plant Funds	89
	102



# INDEX OF LOAN, ENDOWMENT, AND PLANT FUNDS

Acker	89	Knapp	97
Alumni Unrestricted Endowment	89	Kuhlbank	94
Alumni Professorship	91	Larner	101
Andrews	96	Law School Expansion	102
		Lewis	93
Bartsch	96	Library Books	102
Barden	92		
Brown	97	Meyer Library	95
Burns	100	Morehouse	98
Burton	94		
Campaign	89	National Park Seminary	95
Carr	96	Noyes Library	95
Carrall	91		101
Carter, H. H.	96	Ordronaux	
Carter, M. M.	97		103
Chamberlin	94	Pairo	99
Chapman	94	Pearson	89
Cleghorne	97	Peole	99
College Women's	92	Powell	
Collins	97		92
Columbian Women Funds	91	Rankin	89
Congressional	93	Reichelderfer	95
Cooper	89	Reinhardt	
Corcoran	100	Reserves for Protection of Investments	101
Cowles	100	Consolidated Endowment	103
Croissant	100	Consolidated Plant	101
Cutter	98	Scottish Rite	93
D. C.—D. A. R. Scholarship	88	Ruffin	101
D. C.—D. A. R. Loan	88	Ruggles	
Davis Unrestricted Endowment	100		90
Davis Prize	98	Sanders Unrestricted Endowment	91
Davis Scholarship	91	Sanders Fellowship	103
Depew	98	School of Engineering Building	93
Dortsey		School of Medicine Endowment	

Adams	100	Scottish Rite	
Evans	100	Sharpe	99
Farnham	98	Shepard	99
Field House	102	Sothern	99
Fisher	98	Spencer	101
Fitch	100	Staughton-Elton	101
Founders of Columbian Women	97	Stierrett	99
Fry	91	Stone	99
		Strong	99
Garbner	93	Subscription Gifts	95
General Hospital	94	Sutherland	90
George Washington Law Association Loan	88	Swisher Alceve Book	88
Gills	93	Swisher Prize	95
Christiane Library	89	Swisher Scholarship	101
Goddard Endowment	100	Syms	99
Goddard Prize	94	Teller	90
Graduate	89	Tree	95
Haggett	98	Trustees	90
Hampel	88	University Loan	88
Harris	98	Walker	99
Harvey	98	Walsh	101
Hazleton	95	War Loan	88
Hensley	97	Weddell Unrestricted Endowment	90
Hetton	88	Weddell Prize	101
Home Economics Loan	94	Willard Association	90
Houser	95	Willard	97
Howard Lecture	101	Withers	90
Howard Library	88	Withington	99
Hubbard	94	Women's Activities Building	103
Kellogg Loan	91	Women's Board Gift Shop Equipment	103
Kendall	88	Woodbury	95
Kinnel	98	Woodhull Unrestricted Endowment	90
King Unrestricted Endowment	89	Woodhull Scholarship	99
King Fellowship	91	Yulee	91

## LETTER OF TRANSMITTAL

November 15, 1952

TO THE PRESIDENT AND THE BOARD OF TRUSTEES  
THE GEORGE WASHINGTON UNIVERSITY  
WASHINGTON, D. C.

GENTLEMEN:

I am submitting herewith the Report of the Comptroller of The George Washington University for the fiscal year ended August 31, 1952. This report is a review of the budget operations for the year and is based on the budget approved by the Board of Trustees of the University.

The accounts of the University are kept and its financial reports set up as far as practicable in conformity with the recommendations of the National Committee on Standard Reports for Institutions of Higher Education. Under that plan the funds of the University are classified in various fund groups, and the accounts and financial statements are set up to segregate clearly the assets and liabilities of each of these groups as indicated in the balance sheet, Exhibit A.

R. G. Rankin & Co. have examined the accounts of the University for the past year, and their certificate is submitted herewith.

A condensed summary of the principal facts in the report is presented below and on succeeding pages, followed by detailed Exhibits and Schedules.

Respectfully submitted,  
HENRY W. HENZOG  
Comptroller



# CONDENSED SUMMARY CURRENT FUNDS—UNRESTRICTED

These Funds represent unrestricted assets which are available for immediate use in the current operation of the University.

Operating Income for the Year (Exhibit B and Schedule 1)	8,119,547.00
Operating Expense for the Year (Exhibit B and Schedule 2)	7,910,446.01
Excess of Current Operating Income over Current Operating Expense (Exhibit B)	209,100.99

The latter amount was added to Current Funds Unrestricted Surplus. Surplus at the end of the year amounted to \$290,726.31 (Exhibit B). During the year there was transferred from Surplus to Net Investment in Plant \$146,536.11 for the purchase of land and buildings, \$42,980.73 for the purchase of equipment, and \$10,547.55 for the reduction of trust notes payable.

Prepaid Expense of \$302,457.31 includes inventories of \$117,161.00 at the University and \$166,460.20 at the Hospital (Schedule 3). Deferred Charges include \$7,026.82 expended for Hospital improvements under a Hospital remodeling program of \$125,000.00 authorized by the Board of Trustees February 14, 1952, and \$122,844.20 representing Hospital Equipment purchased by the University in excess of the amount paid for from receipts of the Hospital Equipment Fund (Exhibit A). The latter item is fully explained on page 9.

Accounts Receivable in the amount of \$922,620.77 include \$158,364.00 due from the Veterans Administration under the "GI Bill of Rights," \$455,929.41 from research contracts, and \$445,019.36 due the Hospital (Schedule 3). Of this latter amount \$228,755.94 is due from patients still in the Hospital, and from Group Hospitalization and other agencies under contracts. The balance of \$216,263.42 represents doubtful and delinquent accounts against which a Provision for Doubtful Accounts of \$140,000.00 has been charged to current operations.

## CURRENT FUNDS—RESTRICTED

Research grants, investment income, gifts, and agency funds comprise these funds which consist of currently expendable assets, limited as to disposition (Exhibit C and Schedule 10).

During the year restricted gifts and grants for use as specified amounted to \$1,428,663.53 (page 86). Restricted endowments earned \$132,368.69. Unexpended Restricted and Agency Funds totaled \$360,119.77 (Exhibit C).

## LOAN FUNDS

For the assistance of students seeking financial aid, loan funds have been established by the University and other organizations (Schedule 11). Loans are made at a low rate of interest and when repaid the interest is added to the principal of the funds.

During the year, 248 loans were made to students. Loan Funds totaled \$34,107.23 (Exhibit D).

## ENDOWMENT FUNDS

The principal of all endowment funds amounted to \$3,204,331.03, an increase of \$104,633.70 (Exhibit E). These funds are represented by assets which, under the terms of wills, deeds of gift, or under the by-laws of the University, must be held in perpetual trust for income-producing purposes. The principal amount and changes during the year of every endowment fund are recorded in Schedule 12. A description of the funds begins on page 89.

"Consolidated Endowment Funds" consisted of one hundred and four endowments with a total value of \$1,655,229.89 (Schedule 5). The assets of these funds are combined to eliminate the possibility of partial or total loss of any fund through the failure of a specific investment, and to avoid temporary suspension of income and the carrying of uninvested small cash balances, and to give equality of treatment to all funds. Unless otherwise restricted by the donors, the assets of all new endowments are added to the assets of the Consolidated Endowment Funds.

Reserves for Protection of Investments were as follows: Consolidated Endowment Funds, \$85,559.23; Scottish Rite Fund, \$61,859.63 (Schedule 12).

Earnings of Consolidated Endowment Funds are recorded in one income account and at the end of the year are distributed to the participating funds in the proportion each fund bears to the total of the entire group. The rate of return on the investments of these funds amounted to 5.0485% during the past year and, after deducting 10% as a reserve against losses (Schedule 12), was distributed at the rate of 4.5437%.

The Scottish Rite Endowment Fund earned 4.4147% net income on its investments during the year just ended.

Net income of all endowment funds for the year was \$132,343.89 (Schedule 10—Page 5).

Pledges to the School of Medicine Endowment Fund on August 31, 1952, totaled \$181,944.00.

# PLANT FUNDS—UNEXPENDED

Cash and other assets for development of the physical plant comprise these funds (Schedule 7). At the end of the year the balance was \$440,824.05 (Exhibit F).

The Hospital Equipment Fund was created in 1945 by gifts of various donors and has since been increased by gifts and other income for the purchase of equipment for the new Hospital. A report of activity through August 31, 1952, follows:

Hospital Equipment purchased 1945-46 through 1950-51	1,149,561.77	
" " " 1951-52 Current Funds Unrestricted Surplus (Exhibit B)	8,372.25	
" " " 1951-52 Plant Funds (Schedule 13)	7,819.83	
Hospital Equipment Fund receipts 1945-46 through 1950-51	16,192.08	1,165,753.85
" " " 1951-52 (Schedule 13)	941,643.04	
Hospital Equipment purchased in excess of receipts	7,819.83	949,462.87
Less allowance for portion of excess of 1951-52 Hospital income over Hospital expense		216,290.98
Deferred Charge—Hospital Equipment—Exhibit A		93,446.78
		122,844.20

The latter amount is reported as an asset of Current Funds Unrestricted in anticipation of further receipts to reimburse the University for the amount which has been advanced to meet this need.

The Reserve for Protection of Consolidated Plant Funds Investments ended the year with a balance of \$6,373.26 (Schedule 13).



### PLANT FUNDS—INVESTED IN PLANT

EXHIBITS A, B, AND C, SCHEDULES 8 AND 9	<u>BALANCE AUGUST 31, 1951</u>	<u>NET ADDITIONS</u>	<u>REDUCTIONS</u>	<u>BALANCE AUGUST 31, 1952</u>
LAND AND BUILDINGS.....	16,149,098.73	327,250.03	.....	16,476,348.76
EQUIPMENT.....	1,997,608.83	.....	20,394.78	1,977,214.05
TRUST NOTES PAYABLE.....	302,278.13	239,452.45	.....	541,730.58
NET INVESTMENT IN PLANT....	17,844,429.43	67,402.80	.....	17,911,832.23

AUDIT CERTIFICATE

November 15, 1952

TO THE PRESIDENT AND THE BOARD OF TRUSTEES  
THE GEORGE WASHINGTON UNIVERSITY  
WASHINGTON, D. C.

We have examined the balance sheet of THE GEORGE WASHINGTON UNIVERSITY as of August 31, 1952, and the related statements of current operating income and expense, current funds surplus, and other fund transactions for the fiscal year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. It was not practicable to confirm receivables from United States Government Agencies, but we have applied other auditing procedures in verification of this asset.

In our opinion, the balance sheet and related statements of current operating income and expense, current funds surplus, and other fund transactions included in the accompanying REPORT OF THE COMPTROLLER OF THE UNIVERSITY, present fairly the financial position of THE GEORGE WASHINGTON UNIVERSITY as of August 31, 1952, and the results of its operations for the fiscal year then ended, in conformity with generally accepted principles of university and college accounting applied on a basis consistent with that of the preceding year.

R. G. RANKIN & Co.  
CERTIFIED PUBLIC ACCOUNTANTS

# THE GEORGE WASHINGTON UNIVERSITY

## BALANCE SHEET

August 31, 1952

ASSETS		LIABILITIES	
CURRENT FUNDS		CURRENT FUNDS	
UNRESTRICTED		UNRESTRICTED	
CASH	14,992.44	NOTES PAYABLE—Riggs National Bank, Due on or before November 28, 1952. Interest 3%	875,000.00
ACCOUNTS RECEIVABLE (Schedule 3)	922,620.77	ACCOUNTS PAYABLE.....	135,702.31
PREPAID EXPENSE (Schedule 3)	286,711.21	DEFERRED INCOME.....	52,766.82
DEFERRED CHARGE (Page 7)	122,844.20	SURPLUS (Exhibit B).....	290,726.31
Hospital Equipment	7,026.82		1,354,195.44
Hospital Improvements			
		RESTRICTED	
CASH.....	305,226.77		
INVENTORY—GIFT SHOP.....	4,893.00		
U. S. A. SAVINGS BONDS Series (1, 2) 1/2, due 11-1-54.	50,000.00	PRINCIPAL OF FUNDS (Exhibit C).....	360,119.77
		LOAN FUNDS	
CASH.....	10,652.94		
LOANS RECEIVABLE (Schedule 4)	23,454.29	PRINCIPAL OF FUNDS (Exhibit D).....	34,107.23



ENDOWMENT FUNDS

CASH INVESTMENTS (Schedule 5)	18,256.75	
FUNDS HELD IN TRUST BY OTHERS (Schedule 6)	2,848,902.77	
	<u>2,867,159.52</u>	
	337,171.51	
	3,204,331.03	PRINCIPAL OF FUNDS (Exhibit E)
		3,204,331.03

PLANT FUNDS

CASH INVESTMENTS (Schedule 7)	23,386.49	
	<u>418,437.56</u>	
	441,824.05	PRINCIPAL OF FUNDS (Exhibit F)
		441,824.05
LAND AND BUILDINGS (Schedule 8)	16,476,348.76	
EQUIPMENT (Schedule 9)	<u>1,977,214.05</u>	
	18,453,562.81	
	541,730.58	TRUST NOTES PAYABLE (Schedule 8)
	<u>17,911,832.23</u>	NET INVESTMENT (Exhibit G)
		18,453,562.81

TOTAL	23,848,140.33	TOTAL
		<u>23,848,140.33</u>

EXHIBIT A

# SUMMARY OF CURRENT OPERATING INCOME AND EXPENSE For the Year Ended August 31, 1952

<b>Income (Schedule 1)</b>		
Educational and General		
Student Fees	2,753,098.38	
Organized Research:	1,347,411.73	
Investments	120,786.86	
Gifts	34,169.16	
Miscellaneous Sources	104,695.75	
Activities Relating to Instruction—Hospital	3,278,836.27	
Other	12,855.39	
Auxiliary Enterprises		7,651,853.54
		<u>467,693.46</u>
		8,119,547.00
<b>Expense (Schedule 2)</b>		
Educational and General		
Administration and General	725,509.11	
Instruction	1,819,961.47	
Organized Research	1,347,411.73	
Libraries	94,667.93	
Maintenance and Operation of Plant	394,438.89	
Miscellaneous	245,451.48	
Activities Relating to Instruction—Hospital	3,123,077.72	
Other	12,855.39	
Auxiliary Enterprises		7,763,373.72
Student Aid	393,757.77	
	<u>41,220.21</u>	
		8,198,351.70
		<u>287,905.69</u>
		7,910,446.01
Less reimbursement for overhead included above		
		<u>209,100.99</u>

EXCESS OF CURRENT OPERATING INCOME OVER CURRENT OPERATING EXPENSE (see below).....

**SUMMARY OF CURRENT FUNDS UNRESTRICTED SURPLUS**  
**For the Year Ended August 31, 1952**

BALANCE AUGUST 31, 1951.....		243,249.19
<b>ADDITIONS</b>		
Excess of Current Operating Income over Current Operating Expense (see above)	209,100.99	
Deferred Charge—Hospital Improvements (page 7)	7,026.82	
Deferred Charge—Hospital Equipment (page 9)	8,372.25	
Reimbursement for depreciation on Hospital building and equipment (Exhibit G)	178,800.00	
	<u>403,300.06</u>	
		<u>646,549.25</u>
<b>DEDUCTIONS</b>		
Deferred Charge—Hospital Deficit		
Reduction of Deferred Charge—Hospital Equipment (page 7)	62,311.77	
Transferred to Net Investment in Plant—Exhibit G	93,446.78	
Land and Buildings		
Equipment	146,536.11	
Reduction of Trust Notes Payable	42,980.73	
Trust Notes Payable August 31, 1951		
Trust Note assumed during year	<u>302,278.13</u>	
	<u>250,000.00</u>	
	<u>552,278.13</u>	
	<u>541,730.58</u>	
Trust Notes Payable August 31, 1952		
	<u>10,547.55</u>	
		<u>355,822.94</u>
BALANCE AUGUST 31, 1952—EXHIBIT A.....		<u>290,726.31</u>

**EXHIBIT B**



# SUMMARY OF CURRENT FUNDS RESTRICTED

For the Year Ended August 31, 1952

	TOTAL	ORGANIZED RESEARCH	INVESTMENT INCOME	MISCEL- LANEOUS	AGENCY
BALANCE AUGUST 31, 1951.....	313,790.30	177,644.62	58,427.71	66,171.77	11,546.20
ADDITIONS (Schedule 10)					
Gifts, grants, receipts.....	1,426,560.40	1,367,683.70		58,876.70	
Investment income.....	146,799.33		146,799.33		34,558.84
Deposits.....	34,558.84				34,558.84
	<u>1,607,918.57</u>	<u>1,367,683.70</u>	<u>146,799.33</u>	<u>58,876.70</u>	<u>34,558.84</u>
DEDUCTIONS (Schedule 10)					
Salaries.....	821,669.06	821,669.06		222.04	
Expenses.....	525,944.71	525,742.67	5,341.27	2,040.00	
Scholarships, fellowships.....	7,383.27		1,513.75	227.50	
Prizes.....	1,741.25				
Transferred to					
Exhibit G—Net Investment in Plant.....	280.21		280.21		
Schedule 1—Current Operating Income.....	154,858.96		122,190.08	32,668.88	
Schedule 12—Endowment Funds.....	5,283.09		1,643.77	3,619.32	
Schedule 13—Plant Funds.....	8,090.52		8,090.52		36,318.03
Withdrawals.....	36,318.03				36,318.03
	<u>1,541,589.10</u>	<u>1,347,411.73</u>	<u>139,081.60</u>	<u>38,777.74</u>	<u>36,318.03</u>
BALANCE AUGUST 31, 1952.....	340,119.77	197,916.59	66,145.44	86,270.73	9,787.01

# SUMMARY OF LOAN FUNDS PRINCIPAL

For the Year Ended August 31, 1952

BALANCE AUGUST 31, 1951	37,025.68
ADDITIONS (Schedule 11)	
Gifts	691.26
Interest on loans	<u>229.32</u>
	920.58
	<u>37,946.26</u>
DEDUCTIONS	
Transferred to Schedule 12	3,224.84
Refunded to U. S. Government	<u>614.19</u>
	3,839.03
BALANCE AUGUST 31, 1952 - EXHIBIT A	<u>34,107.23</u>

Exhibit D

# SUMMARY OF ENDOWMENT FUNDS PRINCIPAL

For the Year Ended August 31, 1952

BALANCE AUGUST 31, 1951.....	3,099,697.33
<b>ADDITIONS (Schedule 12)</b>	
Gifts.....	87,858.21
Investment income.....	9,417.68
Net gain on sale of investments.....	1,254.86
Transferred from Schedule 10.....	3,619.32
Transferred from Schedule 11.....	3,224.84
	105,374.91
<b>DEDUCTIONS (Schedule 12)</b>	
Net loss on sale of investments.....	741.21
	104,633.70
BALANCE AUGUST 31, 1952—EXHIBIT A.....	3,204,331.03



# SUMMARY OF PLANT FUNDS PRINCIPAL

For the Year Ended August 31, 1952

BALANCE AUGUST 31, 1951.....		424,366.58
ADDITIONS (Schedule 13)		
Gifts.....	37,465.19	
Investment income.....	8,090.52	
Gain on sale of investments.....	305.18	
		45,860.89
DEDUCTIONS (Schedule 13)		
Equipment - Invested in Plant - Exhibit G.....	8,000.58	
Land and Buildings - Invested in Plant - Exhibit G.....	15,713.92	
Net loss on sale of investments.....	4,193.72	
Fund-raising expense.....	495.20	
		28,403.42
		<u>17,457.47</u>
BALANCE AUGUST 31, 1952 - EXHIBIT A.....		<u>441,824.05</u>

EXHIBIT F

## SUMMARY OF NET INVESTMENT IN PLANT

For the Year Ended August 31, 1952

BALANCE AUGUST 31, 1951.			
<b>ADDITIONS</b>			
Land and Buildings (Schedule 8)	146,536.11		
Current Funds Unrestricted Surplus (Exhibit B).....	250,000.00	412,250.03	
Trust Note Payable (Exhibit B)	15,713.92		
Plant Funds (Exhibit F)			
Equipment (Schedule 9)	42,980.73		
Current Funds Unrestricted Surplus (Exhibit B).....	280.21		
Current Funds Restricted (Exhibit C)	8,000.58	108,405.22	520,655.25
Plant Funds (Exhibit F)	57,143.70		18,365,084.68
Departments (Schedule 2—Page 6)			
<b>DEDUCTIONS</b>			
Provision for Depreciation—Hospital (Schedules 2 and 8)—Exhibit B.....	60,000.00	178,800.00	
" " " Hospital Equipment (Schedules 2 and 9)—Exhibit B ..	118,800.00		
Trust Note assumed during year (Exhibit B)	250,000.00	239,452.45	
Reduction of Trust Notes Payable (Exhibit B)	10,547.55	25,000.00	
Portion of Veterans Housing raised		10,000.00	453,252.45
Equipment—Veterans Housing discarded			
BALANCE AUGUST 31, 1952—EXHIBIT A.....			17,911,832.23

## SCHEDULES



# **CURRENT OPERATING INCOME**

For the Year Ended August 31, 1952

## **EDUCATIONAL AND GENERAL**

### **STUDENT FEES**

Tuition and Laboratory	537,516.75	
Junior College	272,593.32	
Columbian College	21,280.66	
Graduate Council	140,167.87	
School of Government	155,073.14	
Division of Special Students	233,891.33	1,340,523.07
" University Students		
College of General Studies	218,919.78	
Law School	288,827.37	
School of Education	81,449.29	
" Engineering	133,617.47	
" Medicine	266,412.00	1,005,649.91
" Pharmacy	16,424.00	2,346,172.98
Summer Sessions—Junior College	69,761.37	
" Columbian College	44,608.60	
" Graduate Council	1,483.00	
" School of Government	30,581.20	
" Division of Special Students	18,261.00	
" University Students	69,054.00	
" Law School	61,448.00	
" School of Education	19,682.20	
" Engineering	10,288.00	325,670.37
" Pharmacy	503.00	
Unallocated—Old Fees		1,750.57
		2,673,593.92

Miscellaneous Fees

Application .....	27,029.00	
Aptitude .....	900.50	
Art Validation .....	325.00	
Binding Theses .....	937.00	
Breakage .....	338.95	
Engineers' Council .....	1,125.89	
Graduation .....	33,821.50	
Late .....	915.00	
Library Fines .....	631.66	
Publication of Theses .....	760.00	
Reinstatement .....	935.00	
Service .....	2,054.00	
Special Examinations .....	325.00	
Student Bar Association .....	4,444.00	
Testing Center .....	3,467.25	
Transcripts .....	1,494.71	
	<u>79,504.46</u>	<u>2,753,098.38</u>

CURRENT OPERATING INCOME (Continued)  
For the Year Ended August 31, 1952

EDUCATIONAL AND GENERAL (Continued)

ORGANIZED RESEARCH (Schedule 10)			
Deferred from 1950-51	177,644.62		
Income 1951-52	<u>1,367,683.70</u>	1,545,328.32	
Deferred to 1952-53		<u>197,916.59</u>	1,347,411.73
INVESTMENT INCOME (Schedule 10)			
Endowment Funds—Unrestricted	29,418.82	114,446.14	
" " Restricted	<u>85,027.32</u>	<u>6,340.72</u>	120,786.86
Plant Funds—Restricted			
Gifts			
Unrestricted (page 86)		.28	
Restricted (Schedule 10—portion used)	32,668.88		
Restricted (page 86)	<u>1,500.00</u>	<u>34,168.88</u>	34,169.16



MISCELLANEOUS SOURCES

Discounts Earned.....	4,190.38
Homecoming Celebration.....	1,445.50
Miscellaneous Income.....	4,490.46
Reading Clinic.....	7,876.50
Rent on Miscellaneous Properties—Net.....	49,100.72
Speech Clinic.....	2,290.00
Veterans Administration—Handling Fee.....	15,260.47

Student Activities—Athletic Programs.....	3,043.80
“ Engineers’ Council.....	423.32
“ Law Review.....	2,809.38
“ Maceleciv.....	946.69
“ University Players.....	288.00
Student Council—Cherry Tree.....	6,218.17
“ Classes (portion used).....	111.68
“ Colonial Review.....	95.31
“ Hatchet.....	5,476.67
“ Miscellaneous.....	628.70
	<hr/>
	12,530.53
	<hr/>
	104,695.75

# CURRENT OPERATING INCOME (Continued)

For the Year Ended August 31, 1952

## EDUCATIONAL AND GENERAL (Continued)

### ACTIVITIES RELATING TO INSTRUCTION—HOSPITAL

Patients		
Room Charges	420,599.15	
Private Rooms	993,609.39	
Semi-Private Rooms	213,935.00	
Wards	115,939.00	1,744,082.54
Nurses		
Special Service Departments		
Operating Rooms	181,777.45	
Delivery Rooms	95,324.60	
Anesthesiology—General	218,679.65	
Oxygen	42,046.25	
X-Ray	177,716.93	
Physical Medicine	87,468.90	
Laboratories—Tests	263,397.09	
Pathology	32,793.50	
Cardiology	12,918.70	
Pharmacy	217,730.00	
Medical and Surgical Supplies	131,978.86	
Baby Beds	3,698.55	
Electroencephalography	14,944.18	
Radioisotopes Laboratory	1,549.00	1,482,023.66
Out-Patient Department		
Clinic	35,259.46	
Emergency	18,531.18	
Ophthalmology	3,038.00	
Urology	10,275.50	
Surgery	3,460.70	70,564.84

Other Income		
Telephone.....	12,423.14	12,521.07
Recovery on Bad Debts.....	97.93	3,309,192.11
Less Deductions		
Allowances—Group Hospitalization.....	85,403.77	
“ Hospital Service Agency.....	21,337.68	
“ D. C. Health Department.....	2,094.50	
“ Free Work.....	60,247.71	
“ Discounts.....	5,763.70	
“ Other.....	1,971.67	
		<u>176,819.03</u>
		3,132,373.08

Other Sources		
Cafeteria.....	101,708.38	
Special Duty Nurses.....	37,658.00	
Endowment Income (Schedule 10).....	1,403.22	
Sales to American Cyanamid Co.....	1,139.50	
Laundry.....	975.35	
Gifts.....	635.10	
Taxi Parking Rent.....	600.00	
Medical Records Abstracts.....	363.30	
Public Telephone Commission.....	132.64	
Fan Rent.....	118.00	
Ambulance Service.....	65.00	
Miscellaneous.....	1,664.70	
	<u>146,463.19</u>	
		3,278,836.27

ACTIVITIES RELATING TO INSTRUCTION  
 Post-Graduate Medical Education (portion used)..... 12,855.39



CURRENT OPERATING INCOME (Continued)  
For the Year Ended August 31, 1952

AUXILIARY ENTERPRISES

RESIDENCE HALLS	
Nurses Home—Everglades Apartments.....	32,027.35
Strong Hall.....	31,761.00
Veterans Housing.....	21,860.27
Wedding Hall.....	19,212.50
2025 H Street, NW.....	3,725.00
	108,586.12
SORORITY HALLS	
2112 G Street, NW.....	1,350.00
2129 G Street, NW.....	4,500.00
2131 G Street, NW.....	660.00
802 21st Street, NW.....	630.00
	7,140.00
MISCELLANEOUS	
Student Union Cafeteria—Commissions.....	9,841.80
Student Union—Other.....	4,248.65
Student Book Store.....	234,401.40
Student Store.....	63,202.84
Duplicating Bureau.....	1,567.27
Lister Auditorium.....	19,801.78
Martha Washington Club.....	120.00
Parking Lot.....	18,296.05
Washington Counseling Center.....	487.55
	351,967.34
	467,693.46
TOTAL—EXHIBIT B.....	8,119,547.00

# CURRENT OPERATING EXPENSE

For the Year Ended August 31, 1952

## EDUCATIONAL AND GENERAL

### ADMINISTRATION AND GENERAL

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
President's Office	55,196.70	41,889.07	13,307.63	
Administrative Secretary's Office	75,288.87	42,897.76	32,229.31	161.80
Comptroller's Office	130,898.50	111,434.80	19,463.70	
Business Manager's Office	145,206.95	65,857.26	62,394.88	
Admissions Office	43,763.32	40,044.61	3,718.71	16,954.81
Registrar's Office	51,128.77	45,897.22	5,231.55	
Activities for Men	19,196.90	15,229.77	3,967.13	
Activities for Women	11,494.13	10,786.06	708.07	
Adviser to Students from Foreign Countries	1,176.87	450.00	726.87	
Alumni Relations Office	14,817.32	11,340.59	3,476.73	
Public Relations Office	43,680.20	22,499.11	21,181.09	
Retirements	93,329.00	15,385.82	77,943.18	
University Chapels	2,129.57	1,019.00	1,110.57	
Veterans Administration	16,842.53	16,026.41	816.12	
Scientific Activities	617.92	462.33	155.59	
Interest	20,741.56		20,741.56	
TOTAL	725,509.11	441,219.81	267,172.69	17,116.61

TOTAL EXHIBIT B

SCHEDULE 2—PAGE 1

**CURRENT OPERATING EXPENSE (Continued)**  
For the Year Ended August 31, 1952

**EDUCATIONAL AND GENERAL (Continued)**

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
<b>INSTRUCTION</b>				
Junior College.....	10,049.38	8,954.50	1,094.88	
Columbian College.....	4,361.98	3,718.50	643.48	
Graduate Council.....	4,433.77	2,820.00	1,613.77	
School of Government.....	6,874.93	5,431.76	1,443.17	
Division of Special Students.....	4,979.12	4,791.21	187.91	
" " University Students	8,345.31	7,619.76	725.55	
	<u>39,044.49</u>	<u>33,335.73</u>	<u>5,708.76</u>	
Accounting.....	20,394.99	20,295.00	99.99	
Art.....	18,292.27	10,900.00	7,392.27	147.00
Biology.....	14,677.49	13,857.50	672.99	92.09
Botany.....	11,541.26	11,100.00	349.17	
Business Administration.....	35,429.78	35,382.39	47.39	
Chemistry.....	70,383.61	62,609.17	7,272.79	501.65
Classical Languages and Literature.....	3,339.96	3,339.96		



Economics.....	37,069.28	36,940.00	129.28
English.....	87,991.30	87,720.00	271.30
Federal Government Management Interns.....	1,000.00	1,000.00	
Foreign Affairs.....	2,227.50	2,227.50	
Foreign Service Review.....	6,568.23	5,789.25	778.98
Geography.....	13,536.10	12,770.00	547.97
Germanic Languages.....	17,069.06	17,040.00	29.06
Government and Economic Policy.....	900.00	900.00	
Graduate Council.....	2,767.49	1,000.00	1,767.49
History.....	46,779.01	46,620.00	120.01
Journalism.....	8,746.19	8,695.00	51.19
Mathematics.....	30,493.44	30,460.00	33.44
Philosophy.....	4,111.28	4,080.00	31.28
Physics.....	41,023.98	39,647.50	649.74
Political Science.....	35,438.46	35,350.00	88.46
Public Administration.....	2,880.00	2,880.00	
Psychology.....	41,580.97	41,010.00	447.58
Religion.....	4,557.20	4,500.00	57.20
Romance Languages.....	60,470.84	60,370.08	100.76
Secretarial Studies.....	5,486.10	3,810.00	545.00
Sociology.....	14,039.83	14,000.00	39.83
Speech.....	30,808.28	29,482.76	1,226.67
Statistics.....	18,137.25	18,015.00	122.25
Zoology.....	24,333.14	21,500.00	2,533.39
	<u>751,118.78</u>	<u>716,626.84</u>	<u>299.75</u>
			<u>3,377.70</u>

# CURRENT OPERATING EXPENSE (Continued)

For the Year Ended August 31, 1952

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
<b>EDUCATIONAL AND GENERAL (Continued)</b>				
<b>INSTRUCTION (Continued)</b>				
College of General Studies				
Administration.....	41,109.21	32,404.63	8,704.58	
Instruction				
General Studies.....	55,896.54	55,896.54		2,046.06
Air Force Manpower Management Program.....	76,332.30	55,137.88	19,148.36	439.00
Reading Clinic.....	8,701.59	7,808.02	454.57	
	<u>182,039.64</u>	<u>151,247.07</u>	<u>28,307.51</u>	<u>2,485.06</u>
Law School				
Administration.....	15,830.91	12,090.95	3,739.96	
Instruction.....	148,230.41	146,265.41	1,965.00	
Patent Law Foundation.....	5,048.19	4,249.94	798.25	
Law Review.....	11,702.98	1,618.00	10,084.98	
	<u>180,812.49</u>	<u>164,224.30</u>	<u>16,588.19</u>	
School of Education				
Administration.....	7,770.52	7,075.85	694.67	
Instruction—Education.....	40,395.48	38,809.25	1,490.23	96.00
“ Home Economics.....	11,397.93	10,240.00	1,105.58	52.35
	<u>59,563.93</u>	<u>56,125.10</u>	<u>3,290.48</u>	<u>148.35</u>
School of Engineering				
Administration.....	5,611.93	4,728.80	883.13	
Instruction—Civil.....	37,659.01	36,290.00	609.15	759.86
“ Electrical.....	21,721.28	20,505.00	492.83	723.45
“ Mechanical.....	23,336.40	22,460.00	337.36	539.04
“ Administration.....	3,900.00	3,900.00		
Engineers' Council.....	533.21		533.21	
Mecheleiv.....	2,279.45		2,279.45	
	<u>95,041.78</u>	<u>87,883.80</u>	<u>5,135.13</u>	<u>2,022.35</u>

# School of Medicine

Administration.....	31,650.91	28,038.08	3,612.83
Anatomy.....	24,687.33	23,425.03	1,113.88
Bacteriology, Hygiene, Preventive Medicine.....	30,315.98	27,484.90	148.42
Biochemistry.....	29,840.38	27,245.00	1,332.57
Dermatology, Syphilology.....	1,456.95	1,450.00	1,498.51
Lecturers and Exchange Professors.....	928.75	928.75	1,160.47
Medicine.....	32,171.61	31,262.66	6.95
Neurology, Neurological Surgery.....	6,511.08	6,211.24	908.95
Obstetrics, Gynecology.....	20,356.18	20,100.00	299.84
Ophthalmology.....	1,337.13	1,325.00	256.18
Pathology.....	27,370.23	26,230.68	12.13
Pediatrics.....	13,177.58	13,040.00	636.43
Pharmacology.....	21,913.20	20,006.95	137.58
Physical Medicine and Rehabilitation.....	2,887.50	2,887.50	804.03
Physiology.....	29,150.20	26,899.96	1,102.22
Psychiatry.....	2,450.00	2,450.00	371.90
Research—General.....	22,987.37	6,712.87	
Surgery.....	27,988.64	26,886.60	16,274.50
Urology.....	1,601.35	1,450.00	1,102.04
	<u>328,782.37</u>	<u>294,035.22</u>	<u>151.35</u>
			<u>29,962.51</u>
			<u>4,784.64</u>



# CURRENT OPERATING EXPENSE (Continued)

For the Year Ended August 31, 1952

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
<b>EDUCATIONAL AND GENERAL (Continued)</b>				
<b>INSTRUCTION (Continued)</b>				
School of Pharmacy				
Administration.....	2,245.76	1,580.00	665.76	647.25
Instruction.....	28,034.27	26,116.30	1,290.72	647.25
	<u>30,300.03</u>	<u>27,696.30</u>	<u>1,956.48</u>	
Summer Sessions				
Administration.....	9,128.19	4,686.00	4,442.19	328.30
Instruction.....	120,971.95	116,334.00	4,309.65	328.30
	<u>130,100.14</u>	<u>121,020.00</u>	<u>8,751.84</u>	
Air Science and Tactics—ROTC				
Instruction.....	5,587.06	5,072.80	514.26	
Physical Education				
Men.....	26,167.91	17,412.59	8,755.32	
Women.....	30,447.84	25,047.38	5,400.46	
	<u>56,615.75</u>	<u>42,459.97</u>	<u>14,155.78</u>	
<b>TOTAL INSTRUCTION—EXHIBIT B.....</b>	<b>1,819,961.47</b>	<b>1,666,391.40</b>	<b>139,776.42</b>	<b>13,793.65</b>

ORGANIZED RESEARCH (Schedule 10) EXHIBIT B.....

1,347,411.73

821,669.06

525,742.67

LIBRARIES

Books.....  
Other.....  
TOTAL—EXHIBIT B.....

23,724.36  
23,724.36  
303.03  
24,027.39

.....  
10,399.95  
10,399.95

.....  
60,240.59  
60,240.59

MAINTENANCE AND OPERATION OF PLANT—EXHIBIT B....

193,993.04

200,445.85

394,438.89

MISCELLANEOUS

Alumni Dues.....  
Golden Book (Hospital Equipment Fund).....  
Real Estate Conveyance.....  
Student Activities.....  
Health Administration.....  
Men's Athletics.....  
Student Activities Office.....  
Student Council Accounts.....  
University Accounts.....  
University Players.....  
TOTAL—EXHIBIT B.....

1,918.00  
8,691.40  
527.40  
  
1,918.00  
8,691.40  
527.40  
  
3,862.80  
136,562.59  
1,696.42  
24,960.24  
2,627.29  
1,024.68  
181,870.82

.....  
.....  
.....  
.....  
17,100.00  
39,206.96  
2,449.69  
.....  
3,083.20  
134.50  
61,974.35

1,918.00  
8,691.40  
527.40  
  
20,962.80  
177,375.86  
4,146.11  
24,960.24  
5,710.49  
1,159.18  
245,451.48

1,606.31

1,606.31

**CURRENT OPERATING EXPENSE (Continued)**  
For the Year Ended August 31, 1952

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
<b>EDUCATIONAL AND GENERAL (Continued)</b>				
<b>ACTIVITIES RELATING TO INSTRUCTION—HOSPITAL</b>				
Administration.....	358,687.50	140,439.72	218,247.78	
Dietary.....	496,897.17	202,544.33	294,352.84	
Household and Property				
Laundry.....	58,590.83	56,493.38	2,097.45	
Linen Service.....	35,510.14	9,355.95	26,154.19	
Housekeeping.....	129,269.41	112,158.65	17,110.76	
Plant.....	157,668.37	53,914.82	103,753.55	
	381,038.75	231,922.80	149,115.95	
Professional Care—General				
Medical and Surgical Service.....	188,913.86	67,177.00	121,736.86	
Cardiology.....	4,668.14	3,962.66	705.48	599.74
Medical Library for Residents and Interns.....	1,769.80	1,170.06	.....	
Nursing Care.....	707,581.23	706,998.74	582.49	
Medical Records.....	29,205.72	26,470.79	2,734.93	
Pharmacy.....	110,263.37	14,570.25	95,693.12	
Central Sterile Supply.....	20,758.22	20,740.36	17.86	
	1,063,160.34	841,089.86	221,470.74	599.74
Professional Care—Special				
Operating Rooms.....	110,539.26	62,991.21	47,548.05	
Delivery Rooms.....	58,269.39	47,189.22	11,080.17	
Laboratories.....	117,274.14	104,164.15	13,109.99	
X-Ray.....	90,971.66	62,973.96	27,997.70	
Electroencephalography.....	5,110.16	4,305.83	804.33	
Radioisotope.....	542.90	.....	542.90	
Anesthesiology.....	90,046.86	64,979.15	25,067.71	
Oxygen Therapy.....	20,514.46	5,335.49	15,178.97	
Physical Medicine.....	40,059.27	38,803.08	1,256.89	
	553,348.80	390,742.09	142,606.71	



Out-Patient Department

General Services.....	17,498.56	17,264.01	234.55
Medicine.....	16,043.48	10,903.94	5,139.54
Surgery.....	8,852.89	6,876.13	1,976.76
Gynecology and Obstetrics.....	2,262.91	1,778.54	484.37
Ophthalmology.....	5,670.55	3,410.00	2,260.55
Dental.....	457.11	.....	457.11
Urology.....	4,958.29	2,262.62	2,695.67
Social Service.....	3,000.00	3,000.00	.....
Nursing Care.....	6,350.49	6,350.49	.....
Housekeeping.....	16,668.91	16,668.91	.....
Emergency.....	12,625.87	9,854.11	2,771.76
	<u>94,389.06</u>	<u>78,368.75</u>	<u>16,020.31</u>

Auxiliary Enterprises

Ambulance Service.....	87.50	.....	87.60
Residents' and Interns' Room Charges.....	(-12,960.00)	.....	(-12,960.00)
	<u>(-12,872.50)</u>	.....	<u>(-12,872.50)</u>

Miscellaneous

Depreciation—Building (Exhibit G) (Schedule 8).....	60,000.00	.....	60,000.00
Equipment.....	118,800.00	.....	118,800.00
Interest.....	11,274.60	.....	11,274.60
Employee Scholarships.....	3,354.00	.....	3,354.00
Nurses' Home.....	15,000.00	.....	15,000.00
	<u>208,428.60</u>	.....	<u>208,428.60</u>

TOTAL HOSPITAL—EXHIBIT B.....

	<u>3,123,077.72</u>	<u>1,885,107.55</u>	<u>1,237,370.43</u>
			<u>599.74</u>

ACTIVITIES RELATING TO INSTRUCTION—POST GRADUATE  
MEDICAL EDUCATION—EXHIBIT B.....

	<u>12,855.39</u>	<u>6,284.14</u>	<u>6,571.25</u>
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# CURRENT OPERATING EXPENSE (Continued)

For the Year Ended August 31, 1952

## AUXILIARY ENTERPRISES

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
<b>RESIDENCE HALLS</b>				
Nurses Home—Everglades Apartments . . . . .	40,960.51	14,971.94	25,988.57	
Strong Hall . . . . .	20,151.93	10,173.19	9,978.74	
Veterans Housing . . . . .	12,872.42	4,807.99	8,064.43	
Welling Hall . . . . .	2,240.51	1,009.32	1,231.19	
2025 H Street, NW . . . . .	76,225.37	30,962.44	45,262.93	
<b>SORORITY HALLS</b>				
2112 G Street, NW . . . . .	451.52	120.00	331.52	
2129 G Street, NW . . . . .	2,631.40	675.00	1,956.40	
2131 G Street, NW . . . . .	527.44	100.00	427.44	
802 21st Street, NW . . . . .	1,823.31	930.00	893.31	
	5,433.67	1,825.00	3,608.67	
<b>OTHER</b>				
Book Store, Student Store, Student Union . . . . .	293,239.42	42,070.20	251,169.22	
Duplicating Bureau . . . . .	830.37		830.37	
Lisner Auditorium . . . . .	18,028.94	9,784.84	8,244.10	
	312,098.73	51,855.04	260,243.69	
<b>TOTAL—EXHIBIT B . . . . .</b>	<b>393,757.77</b>	<b>84,642.48</b>	<b>309,115.29</b>	

# STUDENT AID

Scholarships—Exhibit B.....

41,220.21

41,220.21

TOTAL EXPENSE—EXHIBIT B.....

8,198,351.70

5,227,975.23

2,913,232.77

57,143.70

Less overhead expense charged to various departments  
and included in "Other Expense" above—Exhibit B.....

287,905.69

TOTAL EXPENSE, ADJUSTED—EXHIBIT B.....

7,910,446.01



### ACCOUNTS RECEIVABLE and PREPAID EXPENSE

August 31, 1952

#### ACCOUNTS RECEIVABLE

Veterans Administration—Veterans Tuition, Books, Supplies.....	158,364.00	EXHIBIT A
Regular Students—Tuition and Other Fees.....	2,680.00	
Dormitory Rent.....	628.00	
Organized Research Funds.....	455,929.41	
Hospital.....	445,019.36	
Less Provision for Doubtful Accounts.....	<u>140,000.00</u>	
	305,019.36	922,620.77

#### PREPAID EXPENSE

University Supplies—Stockroom.....	59,460.00
"    "    Book Store.....	38,320.00
"    "    Student Store.....	24,980.00
"    "    Duplicating Bureau.....	98.00
"    "    Microscopes.....	691.26
"    "    Travel.....	7,507.84
"    "    Miscellaneous.....	<u>8,120.20</u>
Hospital Supplies—Medical and Surgical.....	70,108.00
"    "    Pharmacy.....	30,199.00
"    "    Maintenance and Housekeeping.....	8,733.00
"    "    Linens and Bedding.....	14,945.00
"    "    Office.....	5,299.00
"    "    Food.....	6,230.00
"    "    Insurance.....	<u>12,019.91</u>
	147,533.91
	<u>286,711.21</u>

# ASSETS OF LOAN FUNDS

August 31, 1952

FUNDS	TOTAL	CASH	LOANS RECEIVABLE
D.C.—D.A.R. Loan Fund.....	90.40	.....	90.40
George Washington Law Association Loan Fund.....	811.42	492.10	319.32
Harris Loan Fund.....	400.00	400.00	
Home Economics Loan Fund.....	382.35	382.35	
Kellogg School of Medicine Loan Fund.....	16,717.16	2,385.29	14,331.87
School of Medicine Loan Fund.....	531.26	531.26	
Sutherland School of Medicine Loan Fund.....	1,360.00	360.00	1,000.00
University Loan Fund.....	8,268.94	6,101.94	2,167.00
War Loan Fund.....	5,545.70	.....	5,545.70
<b>TOTAL—EXHIBIT A.....</b>	<b>34,107.23</b>	<b>10,652.94</b>	<b>23,454.29</b>

# ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY

August 31, 1952

## CONSOLIDATED ENDOWMENT FUNDS

BODIES	DESCRIPTION	%	DUE	VALUE		BOOK
				PAR	MARKET	
American Telephone and Telegraph Co.	Convertible Debenture.....	2½	1961	12,000	13,080.00	12,830.00
Atchison, Topeka and Santa Fe Ry. Co.	General Mortgage.....	4	1995	2,000	2,400.00	1,970.00
Baltimore and Ohio R. R. Co., Pittsburgh, Lake Erie and W. Va. System.....	Refunding Mortgage A.....	4	1980	5,000	4,550.00	5,034.00
Capital Transit Co.....	First and Refunding Mortgage A.....	4	1964	8,000	8,000.00	8,000.00
Dow Chemical Co.....	Convertible Subordinated Deb.....	3	1982	15,000	15,450.00	15,225.00
Great Northern Railway Co.....	General Mortgage D.....	4½	1976	25,000	28,000.00	25,177.00
National Container Corporation.....	Sinking Fund Debenture.....	4½	1966	20,000	20,400.00	20,000.00
New York Central Railroad Co.....	Refunding and Improvement A.....	4½	2013	30,000	20,400.00	24,779.44
Pennsylvania Railroad Co.....	General Mortgage E.....	4½	1984	25,000	23,250.00	26,463.00
Pennsylvania Railroad Co.....	Consolidated Mortgage.....	4½	1960	1,000	1,080.00	1,016.00
Service Pipe Line Co.....	Sinking Fund Debenture.....	3½	1982	25,000	25,250.00	25,000.00
Southern Railway Co.....	Development and General Mtg. A.....	6½	1956	2,000	2,120.00	2,090.00
State Loan and Finance Corporation.....	Sinking Fund Subordinated Deb.....	5	1960	10,000	9,900.00	10,000.00
United States of America.....	Treasury.....	2¼	1959-62	30,000	29,400.00	30,000.00
United States of America.....	Savings G.....	2½	1967-72	8,000	7,760.00	7,795.00
United States of America.....	Savings G.....	2½	10-1-54	23,000	22,448.00	23,000.00
United States of America.....	Savings G.....	2½	11-1-54	47,000	45,872.00	47,000.00
United States of America.....	Savings G.....	2½	1-1-55	17,000	16,592.00	17,000.00
United States of America.....	Savings G.....	2½	4-1-55	36,500	35,515.00	36,500.00
United States of America.....	Savings G.....	2½	9-1-55	41,100	39,867.00	40,880.00
United States of America.....	Savings G.....	2½	10-1-55	7,500	7,275.00	7,456.00
United States of America.....	Savings G.....	2½	2-1-56	9,000	8,730.00	9,000.00
United States of America.....	Savings G.....	2½	2-1-58	10,000	9,580.00	10,000.00
United States of America.....	Savings G.....	2½	7-1-58	35,000	33,425.00	35,000.00
United States of America.....	Savings F.....	2½	8-1-56	200	172.00	148.00
United States of America.....	Investment B.....	2½	11-1-58	200	162.00	148.00
United States of America.....	General Mortgage.....	2½	1975-80	10,000	9,800.00	10,000.00
Washington Gas Light Co.....	Guaranteed First Mortgage Reg.....	5	1960	6,000	6,840.00	6,309.00
West Shore Railroad Co.....	.....	4	2361	26,000	16,120.00	22,620.00
					465,438.00	480,440.44



STOCKS—PREFERRED

STOCKS—PREFERRED	%	SHARES	10,600.00	10,000.00
Allis-Chalmers Manufacturing Co. ....	3 1/4	100	10,600.00	10,000.00
American Airlines, Inc. ....	3 1/4	200	15,400.00	17,132.16
American Smelting and Refining Co. ....	7	120	19,680.00	17,496.70
American Viscose Corporation ....	5	100	11,800.00	10,750.00
Appalachian Electric Power Co. ....	4 1/2	100	10,500.00	10,600.00
Atchison, Topeka and Santa Fe Ry. Co. ....	5	120	6,480.00	5,987.50
Cleveland and Pittsburgh R. R. Co. ....	7	100	7,100.00	8,500.00
Commonwealth Edison Co. ....	....	350	11,900.00	10,895.49
Connecticut Light and Power Co. ....	....	400	21,200.00	21,008.32
Consolidated Edison Co. of New York. ....	....	300	32,400.00	32,386.17
Corning Glass Works. ....	3 1/2	240	22,800.00	24,000.00
Detroit, Hilledale and S. W. R. R. Co. ....	4	163	9,454.00	10,432.00
General Motors Corporation. ....	....	200	19,800.00	20,000.00
General Motors Corporation. ....	....	100	12,400.00	12,525.25
Gold and Stock Telegraph Co. ....	....	50	4,400.00	5,180.00
Gulf Power Co. ....	6	100	12,700.00	11,700.00
Hecht Co. ....	4.64	100	9,800.00	10,300.00
H. J. Heinz Co. ....	3 3/4	50	4,150.00	5,150.00
International Harvester Co. ....	7	200	19,200.00	20,550.00
Marine Midland Corporation. ....	4 1/4	100	16,500.00	18,204.43
May Department Stores. ....	....	400	21,600.00	21,194.05
McCrory Stores Corporation. ....	3 1/2	200	19,200.00	20,700.00
Merck and Co. ....	....	200	18,800.00	20,670.70
Oliver Corporation. ....	....	105	9,240.00	10,497.50
Pacific Gas and Electric Co. ....	4 1/2	200	20,200.00	21,520.34
Panhandle Eastern Pipe Line Co. ....	4.8	1,000	26,000.00	27,250.00
Pennsylvania Electric Co. ....	4	200	19,800.00	20,172.40
Pfizer, Chas., and Co., Inc. ....	3.7	200	16,600.00	20,500.00
Philadelphica Electric Co. ....	4	150	16,200.00	15,225.00
Potomac Electric Power Co. ....	3.8	100	9,500.00	10,270.00
Public Service Electric and Gas Co. ....	3.6	304	13,072.00	15,732.00
Public Service Electric and Gas Co. ....	....	550	14,850.00	15,406.87

## ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY (Continued)

August 31, 1952

## CONSOLIDATED ENDOWMENT FUNDS (Continued)

STOCKS—PREFERRED (Continued)		VALUE		
	%	SHARES	MARKET BOOK	
Rayonier, Inc. ....	\$2 Cumulative, Par Value \$25.	400	14,400.00	13,584.11
R. J. Reynolds Tobacco Co. ....	Cumulative.	100	8,700.00	10,017.84
Rogers, George A., and Co. ....	\$6 Cumulative First.	1	100.00	100.00
Safeway Stores, Inc. ....	Cumulative Convertible.	100	10,200.00	10,000.00
Southern California Edison Co. ....	Cum. Conv. Preference, Par Value \$25.	800	26,400.00	21,000.00
Sterling Drug, Inc. ....	Cumulative.	200	18,600.00	20,500.00
Virginia Electric and Power Co. ....	\$4.04 Cumulative.	300	30,300.00	30,681.00
			592,026.00	607,819.83
STOCKS—COMMON				
Allis-Chalmers Manufacturing Co. ....		500	26,500.00	21,347.00
American Gas and Electric Co. ....		351	20,709.00	13,624.26
Chrysler Corporation. ....		200	16,200.00	11,500.25
Commonwealth Edison Co. ....		640	21,760.00	18,190.00
Continental Can Co., Inc. ....		31	1,364.00	2,371.69
Continental Illinois National Bank and Trust Co. of Chicago. ....		337	28,645.00	16,920.27
Continental Oil Co. ....		420	26,460.00	9,454.95
Eastman Kodak Co. ....		300	13,500.00	13,256.25
E. I. du Pont de Nemours and Co. ....		56	4,928.00	4,907.00
General Electric Co. ....		100	6,300.00	5,405.00
General Motors Corporation. ....		1,040	62,400.00	28,528.75
Goodyear Tire and Rubber Co. ....		400	17,200.00	9,411.57
International Nickel Co. of Canada, Ltd. ....		200	9,200.00	12,035.25
Kennecott Copper Corporation. ....		300	23,700.00	18,227.50
Mergenthaler Linotype Co. ....		12	372.00	588.00
National City Bank of New York. ....		55	2,695.00	4,190.75
New York Air Brake Co. ....		400	8,000.00	8,646.84
Phelps Dodge Corporation. ....		400	14,400.00	7,857.25
R. J. Reynolds Tobacco Co.—New Class B. ....		100	3,500.00	5,112.50
Wells National Bank. ....		77	2,951.00	28,491.00

Security Storage Co.	67	6,901.00	5,058.50
Socony-Vacuum Oil Co.	1,530	56,610.00	23,687.16
Standard Oil Co. of California	661 1/2	37,705.00	11,796.85
Travelers Insurance Co.	40	26,400.00	16,043.68
United Gas Corporation	800	21,600.00	14,150.79
Wm. Wrigley Jr., Co.	10	740.00	707.50
		<u>485,740.00</u>	<u>311,512.56</u>

#### TRUST NOTES RECEIVABLE

	%		Due
Burman Properties, Inc.—Secured by lot 804 and part of lot 808 in square north of 5051, and parcels 175-30 and 175-41	4	6-21-54	1,000.00
Edmond Property, Inc.—Secured by lot 4, square 15	4	11-19-52	3,500.00
Grady, Dallas E.—Secured by lot 6, square 3953	4	4-9-54	6,000.00
Snow, Chester A.—Secured by lot 77, square 162	4	10-31-52	8,000.00
Wollberg, Ben—Secured by lot 9, square 16	4	12-4-54	3,500.00
		<u>22,000.00</u>	<u>22,000.00</u>

#### REAL ESTATE

Strong Hall—620 21st Street, NW. Lots 19-20-818-819, square 80	215,717.00	215,717.00
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#### CASH

	17,810.06	17,810.06
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#### TOTALS

	1,796,731.06	1,655,299.89
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#### RANKIN ENDOWMENT FUND

#### REAL ESTATE

600 acres of land in Pemiscot County, Missouri (estimated value)	150,000.00	150,000.00
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ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY (Continued)

August 31, 1952

SCOTTISH RITE FUND

BONDS	DESCRIPTION	%	DUE	VALUE		BOOK
				PAR	MARKET	
American Telephone and Telegraph Co.	Debenture.....	2 3/4	1980	25,000	23,250.00	25,000.00
American Telephone and Telegraph Co.	Convertible Debenture.....	3 1/2	1964	20,000	23,200.00	23,151.72
Capital Transit Co.	First and Refunding Mortgage A.....	4	1964	10,000	10,000.00	10,000.00
Lexington and Eastern Railway Co.	First Mortgage.....	5	1965	12,000	13,200.00	12,724.00
Northern Pacific Railway Co.	Prior Lien Railway and Land Grant.....	4	1997	25,000	26,500.00	26,774.00
State Loan and Finance Corporation	Sinking Fund Subordinated Deb.....	5	1960	5,000	4,950.00	5,000.00
United States of America.....	Treasury.....	2 1/4	1959-62	72,000	70,560.00	72,238.00
United States of America.....	Savings G.....	2 1/2	10-1-53	50,000	49,100.00	50,000.00
United States of America.....	Savings G.....	2 1/2	10-1-54	100,000	97,600.00	100,000.00
United States of America.....	Savings G.....	2 1/2	1-1-55	100,000	97,600.00	100,000.00
United States of America.....	Savings G.....	2 1/2	2-1-56	1,000	970.00	1,000.00
United States of America.....	Savings G.....	2 1/2	9-1-62	40,000	38,760.00	40,000.00
United States of America.....	Investment B.....	2 3/4	1975-80	25,000	24,500.00	25,000.00
United States of America.....	General Mortgage.....	5	1960	4,000	4,560.00	4,377.00
Washington Gas Light Co.	Guaranteed First Mortgage Reg.....	4	2361	14,000	8,680.00	12,355.00
West Shore Railroad Co.					493,430.00	507,619.72
STOCKS—PREFERRED		%	SHARES	VALUE		BOOK
				PAR	MARKET	
American Viscose Corporation.....	Cumulative.....	5	100	11,800.00	11,800.00	10,750.00
Celanese Corporation of America.....	Cumulative.....	4 1/2	200	21,200.00	21,200.00	20,081.50
Commonwealth Edison Co.	\$1.32 Convertible.....	.....	150	5,100.00	5,100.00	4,658.55
Consolidated Gas Electric Light and Power Co. of Baltimore.....	Cumulative C.....	4	130	13,390.00	13,390.00	13,312.73
Dresser Industries, Inc.	Cumulative Convertible.....	3 3/4	200	16,400.00	16,400.00	20,600.00
Federated Department Stores, Inc.	Cumulative.....	4 1/4	100	10,300.00	10,300.00	9,895.00
General Motors Corporation.....	\$3.75 Cumulative.....	.....	40	3,960.00	3,960.00	4,000.00
General Shoe Corporation.....	\$3.50 Cumulative.....	.....	50	4,400.00	4,400.00	5,120.50
Goodyear Tire and Rubber Co.	\$5 Cumulative Convertible.....	.....	100	10,700.00	10,700.00	10,960.34
Gulf Power Co.	Cumulative.....	4.64	100	9,800.00	9,800.00	10,300.00

<i>Hecht Co.</i> .....	3 1/2	150	12,450.00	15,450.00
<i>Illinois Power Co.</i> .....	Cumulative	400	20,400.00	20,400.00
<i>International Harvester Co.</i> .....	Cumulative	50	8,250.00	9,124.08
<i>Le Tourneau, R. G., and Co.</i> .....	\$4 Cumulative	200	13,200.00	20,900.00
<i>Montgomery Ward and Co.</i> .....	\$7 Cumulative, Class A	100	17,000.00	20,535.65
<i>Pacific Telephone and Telegraph Co.</i> .....	Cumulative	200	27,800.00	32,287.02
<i>Pfizer, Chas., and Co., Inc.</i> .....	Cumulative Convertible Second	50	5,400.00	5,075.00
<i>Philadelphia Electric Co.</i> .....	Cumulative	100	9,500.00	10,270.00
<i>Philip Morris and Co., Ltd., Inc.</i> .....	Cumulative	138	13,662.00	14,007.00
<i>Potomac Electric Power Co.</i> .....	Cumulative A, Par Value \$50	300	12,900.00	15,525.00
<i>R. J. Reynolds Tobacco Co.</i> .....	Cumulative	200	17,400.00	20,018.77
			265,012.00	293,471.14

STOCKS—COMMON

<i>Cincinnati Milling Machine Co.</i> .....	500	17,000.00	18,609.10
<i>Commonwealth Edison Co.</i> .....	800	27,200.00	21,995.00
<i>Continental Oil Co.</i> .....	1,000	63,000.00	15,725.25
<i>General Electric Co.</i> .....	400	25,200.00	17,210.00
<i>Goodyear Tire and Rubber Co.</i> .....	400	17,200.00	9,649.34
<i>International Nickel Co. of Canada, Ltd.</i> .....	300	13,800.00	13,032.50
<i>Montgomery Ward and Co.</i> .....	750	48,000.00	32,577.25
<i>Riggs National Bank</i> .....	125	45,375.00	32,625.00
<i>Standard Oil Co. of California</i> .....	220 1/2	12,569.00	2,600.00
<i>Standard Oil Co. of New Jersey</i> .....	1,072	83,616.00	37,854.29
<i>Underwood Corporation</i> .....	300	14,300.00	20,940.19
<i>Union Carbide and Carbon Corporation</i> .....	900	58,500.00	25,122.50
<i>United Gas Corporation</i> .....	700	18,900.00	12,381.66
		445,660.00	260,322.08

CASH.....	446.69	446.69
	1,204,548.69	

TOTALS (SCOTTISH RITE FUND.....	1,000,000.00
RESERVE FOR PROTECTION OF SCOTTISH RITE FUND INVESTMENTS.....	61,859.63
	1,061,859.63

# ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY (Continued)

August 31, 1952

## SUMMARY OF ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY

FUNDS	Total Assets	Cash	INVESTMENTS					
			Total	Bonds	Stocks		Trust Notes	Real Estate
					Preferred	Common		
Consolidated.....	1,655,299.89	17,810.06	1,637,489.83	480,440.44	607,819.83	311,512.56	22,000.00	215,717.00
Rankin.....	150,000.00	.....	150,000.00	.....	.....	.....	.....	150,000.00
Scottish Rite.....	1,061,859.63	446.69	1,061,412.94	507,619.72	293,471.14	260,322.08	.....	.....
TOTALS—EXHIBIT A	2,867,159.52	18,256.75	2,848,902.77	988,060.16	901,290.97	571,834.64	22,000.00	365,717.00



# ENDOWMENT FUNDS—HELD IN TRUST BY OTHERS

August 31, 1952

FUNDS	TRUSTEES	BOOK VALUE
Andrews Scholarship Fund.....	American Security and Trust Co.....	5,194.03
Fry Professorship Fund.....	National Savings and Trust Co.....	105,087.77
Harvey Scholarship Fund.....	Washington Loan and Trust Co.....	5,031.97
Sanders Fellowship Fund.....	National Savings and Trust Co.....	206,216.14
Sharpe School of Medicine Fund.....	National Savings and Trust Co.....	8,207.40
Spencer Scholarship Fund.....	Northern Trust Co.....	7,434.20
TOTAL—EXHIBIT A.....		<u>337,171.51</u>

SCHEDULE 6

# ASSETS OF PLANT FUNDS

August 31, 1952

## CONSOLIDATED PLANT FUNDS

BONDS	DESCRIPTION	%	DUE	PAR	VALUE	
					MARKET	BOOK
Federal Land Banks.....	Consolidated Federal Farm Loan.....	2½%	1956	50,000	50,000.00	50,000.00
State Loan and Finance Corporation	Sinking Fund Subordinated Debenture..	5	1960	10,000	9,900.00	10,000.00
United States of America.....	Treas. Cert. of Indebtedness E.....	1⅞	10-1-52	134,000	134,000.00	134,000.00
United States of America.....	Treas. Cert. of Indebtedness F.....	1⅞	12-1-52	30,000	30,000.00	30,000.00
United States of America.....	Savings G.....	2½	11-1-54	3,000	2,928.00	3,000.00
United States of America.....	Savings G.....	2½	10-1-55	1,000	970.00	1,000.00
United States of America.....	Savings G.....	2½	10-1-57	1,700	1,629.00	1,700.00
United States of America.....	Savings G.....	2½	4-1-61	18,600	17,689.00	18,600.00
					247,116.00	248,300.00
STOCK—PREFERRED					SHARES	
Garfinckel and Co.....	Cumulative Convertible.....	4½		750	13,500.00	13,037.50
STOCKS—COMMON						
Garfinckel and Co.....				2,370	42,660.00	44,860.00
Glidden Co.....				102	3,570.00	2,575.00
					46,230.00	47,435.00
CASH.....					19,118.64	19,118.64
TOTALS.....					325,964.64	327,891.14

Bonds	%	Due	Par
Federal Land Banks.....	25%	1956	50,000.00
Morris and Essex Railroad Co. ....	3 1/2	2000	3,540.00
Southern Pacific Co. (Oregon Lines). First and Refunding Mortgage.....	4 1/2	1977	4,605.00
United States of America.....	2 1/2	1964-69	5,145.00
United States of America.....	2 1/2	9-1-53	500.00
United States of America.....	2 1/2	2-1-54	700.00
United States of America.....	2 1/2	11-1-56	500.00
United States of America.....	2 1/2		500.00
<b>STOCKS—COMMON</b>			<b>61,750.00</b>
American Security and Trust Co.....			6,600.00
Mergenthaler Linotype Co.....			8,220.00
National City Bank of New York.....			15,806.25
Pennroad Corporation.....			2,989.00
Riggs National Bank.....			1,300.00
			1,300.00
			19,695.00
			39,065.00
			47,915.06
<b>CASH.....</b>			<b>4,267.85</b>
<b>TOTALS.....</b>			<b>104,024.85</b>
			<b>113,932.91</b>

### SUMMARY OF ASSETS OF PLANT FUNDS

Funds	Total Assets	Cash	Total Investments	Bonds	Preferred Stocks	Common Stocks
Consolidated Plant.....	327,891.14	19,118.64	308,772.50	248,300.00	13,037.50	47,435.00
Pairo.....	113,932.91	4,267.85	109,665.06	61,750.00		47,915.06
<b>TOTALS—EXHIBIT A.....</b>	<b>441,824.05</b>	<b>23,386.49</b>	<b>418,437.56</b>	<b>310,050.00</b>	<b>13,037.50</b>	<b>95,350.06</b>



**LAND AND BUILDINGS**  
For the Year Ended August 31, 1952

Building or Location	Lot	Square	Year Acquired or Erected	Balance August 31, 1951	Net Additions	Balance August 31, 1952
Biological Sciences Building C.....	Part of 834	102	1914-35	151,129.97		151,129.97
Chapin Hall.....	Part of 838	79	1948	60,293.01	25,008.22	85,301.23
Corcoran Hall.....	Part of 834	102	1919-24	327,481.92		327,481.92
	{ 5-13-15-17-19					
	20-24-28-29					
Field House Site.....	800-801-802					
	805 thru 821					
	823-828-829-830					
	832-833-834-836					
	838-839-842	56	1936-52	260,133.03	23,379.30	283,512.33
Gymnasium.....	Part of 834	102	1924-25	58,331.44		58,331.44
Hall of Government.....	Part of 841	79	1918-38	239,035.63		239,035.63
Hospital.....	Entire Square	54	1945	7,389,564.00	7,026.82	7,396,590.82
Liner Auditorium.....	828-838-843	79	1929-41	823,982.91	55,994.00	879,976.91
Lisner Hall.....	Part of 834	102	1912-39	372,230.19		372,230.19
Mechanical Laboratory.....	Part of 834	102	1923-30	57,583.87		57,583.87
Monroe Hall.....	844	79	1938-51	448,672.33	172,536.17	621,208.50
Nurses Home (Schedule 8--Page 4).....	806 thru 811	55	1947	401,500.00		401,500.00
	{ 17 thru 39					
Parking Lot--2314 I Street, NW.....	800 thru 817	41	1945-52	573,562.63	1,724.80	575,287.43
Pharmacology Laboratory.....	822 thru 828-830	79	1944	95,482.17	4,609.01	100,091.18
Physics Laboratory.....	27-28-816-817	79	1947	26,075.12		26,075.12
President's Office.....	Part of 843	79	1936	11,700.00		11,700.00
School of Medicine, Cancer Clinic (Schedule 8--Page 4).....	Part of 834	102				
Shop, Stockroom.....	43	250	1882-1932	995,706.34		995,706.34
Social Sciences Building D.....	53	101	1943	26,761.24		26,761.24
	Part of 834	102	1922-36	276,990.12	13,992.48	290,982.60

Sorority Hall—2112 G Street, NW	816	1948	30,000.00		30,000.00
" 2129 G Street, NW	805	1936	36,989.72		36,989.72
" 2131 G Street, NW	Part of 8	1935	25,500.00		25,500.00
" 802 21st Street, NW	35	1938	13,000.00		13,000.00
Staughton Hall	834-835	1941	62,574.67		62,574.67
Stockton Hall	Part of 834	1920-25	279,325.93		279,325.93
Student Activities Building	41	1947	75,000.00		75,000.00
Student Store	Part of 843	1949	48,105.49		48,105.49
Student Union Building	804-836	1948	526,599.63		526,599.63
Veterans Housing—Parts of Squares 56, 77		1947	100,000.00		100,000.00
Welling Hall	15	55	209,047.72	(-25,000.00)	209,047.72
G Street, NW—1910	C	121	20,000.00		20,000.00
" 2002	27	103	33,600.00		33,600.00
" 2024	16	103	14,955.00		14,955.00
" 2026	15	103	15,074.96		15,074.96
" 2033	Part of 834	102	32,500.00		32,500.00
" 2106	817	80	19,000.00		19,000.00
" 2108	41	80	31,500.00		31,500.00
" 2110	40	80	50,000.00	19,479.23	69,479.23
" 2114	815	80	47,250.00		47,250.00
" 2116	A	80	20,500.00		20,500.00
" 2118	B	80	17,500.00		17,500.00
" 2135	807	79	14,000.00		14,000.00
" 2222	25	57	8,800.00		8,800.00
" 2313-15-17-19-21	803-829	42	23,400.00		23,400.00

**LAND AND BUILDINGS—(Continued)**  
For the Year Ended August 31, 1952

Building or Location	Lot	Square	Year Acquired or Erected	Balance August 31, 1951	Net Additions	Balance August 31, 1952
H Street, NW—1909	800	119	1948	32,500.00		32,500.00
" 1911-13	3	119	1948	67,711.70		67,711.70
" 1921	802	119	1952		32,500.00	32,500.00
" 1923	803	119	1949	38,000.00		38,000.00
" 2011	806	101	1943	13,000.00		13,000.00
" 2020	102	102	1922	98,516.71		98,516.71
" 2025	52	101	1945	21,000.00		21,000.00
" 2027	813	101	1941	11,000.00		11,000.00
" 2029	814	101	1945	11,500.00		11,500.00
" 2031	815	101	1948	13,000.00		13,000.00
" 2037	817	101	1940	23,500.00		23,500.00
" 2111 (Schedule 8—Page 4)	802	77	1950	17,500.00		17,500.00
" 2113	804	77	1940	12,500.00		12,500.00
" 2115	805	77	1944	12,431.25		12,431.25
" 2127	809	77	1946	7,500.00		7,500.00
" 2132-40 1/2	53 thru 59	79	1951		85,000.00	85,000.00
" 2137-39	811	77	1948	15,500.00		15,500.00
" 2142	D	79	1935	1,500.00		1,500.00
" 2142 1/2	815	79	1940	3,000.00		3,000.00
" 2209	804	55	1945	6,650.00		6,650.00
" 2211	16	55	1948	16,125.00		16,125.00
" 2213	17	55	1946	13,000.00		13,000.00
" 2215-19	18-805	55	1944	15,500.00		15,500.00
" 2300	817	42	1942	10,750.00		10,750.00
" 2308	43	42	1948	7,900.00		7,900.00
" 2312	814	42	1948	7,000.00		7,000.00
" 2316	812	42	1947	9,600.00		9,600.00



I Street, NW—2012.									
"	2014	101	1945	25,000.00	25,000.00				25,000.00
"	2018	101	1945	25,000.00	25,000.00				25,000.00
"	2038	101	1946	50,000.00	50,000.00				50,000.00
"	2106	101	1942	10,000.00	10,000.00				10,000.00
"	2112	77	1947	11,800.00	11,800.00				11,800.00
"	2136	77	1947	12,500.00	12,500.00				12,500.00
"	2138	77	1948	15,000.00	15,000.00				15,000.00
"	2204	77	1945	5,000.00	5,000.00				5,000.00
		55	1949	12,000.00	12,000.00				12,000.00
K Street, NW—2300.									
	1-2-3	39	1948	278,735.00	278,735.00				278,735.00
New Hampshire Avenue, NW—905									
	813	40	1949	9,500.00	9,500.00				9,500.00
Pennsylvania Avenue, NW—									
"	1900-02-04-06 08.								
"	1914-16	119	1949	180,000.00	180,000.00				180,000.00
"	1920	119	1950	70,000.00	70,000.00				70,000.00
"	2100	119	1949	70,000.00	70,000.00				70,000.00
"	2130	75	1945	103,000.00	103,000.00				103,000.00
		75	1950	30,000.00	30,000.00				30,000.00



22nd Street, NW - 715.	24	79	1939				
"	717	79	1940	8,190.00			8,190.00
"	719	79	1952	10,143.00			10,143.00
"	810	79			20,000.00		20,000.00
"	812-813	79	1938	8,750.00			8,750.00
"	814	79	1937	4,750.00			4,750.00
"	34	79	1945	7,600.00			7,600.00
"	800-803	55	1946	18,500.00			18,500.00
"	806	55	1945	9,000.00			9,000.00
"	808	55	1946	14,000.00			14,000.00
"	810	55	1948	18,750.00			18,750.00
"	813	77	1948	10,800.00			10,800.00
"	815-17	77	1948	17,000.00			17,000.00
"	818 (deposit)	55	1952		1,000.00		1,000.00
"	820	55	1945	7,000.00			7,000.00
"	822	55	1947	9,250.00			9,250.00
"	909	75	1946	11,000.00			11,000.00
"	911	75	1950	12,000.00			12,000.00
"	921	75	1948	12,500.00			12,500.00



**LAND AND BUILDINGS—(Continued)**  
For the Year Ended August 31, 1952

Building or Location	Lot	Square	Year Acquired or Erected	Balance August 31, 1951	Net Additions	Balance August 31, 1952
23rd Street, NW—611-13 . . . . .	29-821	57	1948	13,500.00		13,500.00
"	822-824-825			3,675.00		3,675.00
"	706 . . . . .	42	1942	7,425.00		7,425.00
"	716 . . . . .	42	1944	11,000.00		11,000.00
"	718 . . . . .	42	1949	4,500.00		4,500.00
"	824 . . . . .	42	1942	3,000.00		3,000.00
"	734 . . . . .	42	1942	17,750.00		17,750.00
"	736 . . . . .					
"	818 . . . . .	40	1949			
"	908 . . . . .					
24th Street, NW—737-39 . . . . .	808	42	1947	11,440.00		11,440.00
Less Depreciation—Hospital . . . . .				16,329,098.73	387,250.03	16,716,348.76
				180,000.00	60,000.00	240,000.00
				16,149,098.73	327,250.03	
<b>TOTAL—EXHIBIT A . . . . .</b>						<b>16,476,348.76</b>

# TRUST NOTES PAYABLE

August 31, 1952

EQUITABLE LIFE ASSURANCE SOCIETY  
Secured by Nurses Home. Due \$7,875 each May 1 and November 1 including interest at 4%..... 183,930.58

GARET, AMELIE S.  
Secured by 2111 H Street, NW. Due \$600 each January 12, April 12, July 12, and October 12, including interest at 4%..... 7,800.00

WASHINGTON LOAN AND TRUST CO.  
Secured by School of Medicine and Cancer Clinic. Due February 21, 1955. Interest 4%..... 350,000.00

TOTAL—EXHIBIT A..... 541,730.58

# EQUIPMENT

For the Year Ended August 31, 1952

	BALANCE August 31, 1951	NET ADDITIONS	BALANCE August 31, 1952
Administration.....	193,145.00	17,116.61	210,261.61
Duplicating Bureau.....	1,774.50		1,774.50
Faculty Dining Room.....		2,284.48	2,284.48
George Washington University Cancer Clinic.....	3,205.00		3,205.00
Gilbert Stuart Painting.....	17,645.61		17,645.61
Gymnasium.....	2,927.37		2,927.37
Hospital.....	1,193,969.59		1,210,161.67
Human Resources Laboratory.....		16,192.08	18,340.65
Instruction—General.....	153,999.05	18,340.65	166,626.74
Law School.....	3,019.13	12,627.69	4,507.56
Library Books—Carnegie Library.....	75,000.00	1,488.43	75,000.00
“ “ General.....	132,766.80		145,947.57
“ “ Hospital.....	1,177.77	599.74	1,777.51
“ “ Law School.....	88,264.20	7,511.17	95,775.37
“ “ School of Medicine.....	25,745.67	3,493.38	29,239.05
Lisner Auditorium.....	94,844.28		94,844.28
Lisner Hall—Library.....	27,463.52	303.03	27,766.55



Motor Vehicles.....	4,352.01	4,352.01
Nurses Home.....	9,710.60	9,710.60
Residence Hall—2025 H Street, NW.....	2,992.84	2,992.84
School of Engineering.....	80,887.35	82,909.70
School of Medicine.....	74,375.74	79,160.38
School of Pharmacy.....	19,668.86	20,316.11
Staughton Hall.....	6,805.37	6,805.37
Strong Hall.....	18,117.63	18,117.63
Student Store.....	8,068.30	8,068.30
Student Union.....	32,945.15	36,406.09
Veterans Housing.....	20,000.00	10,000.00
Welling Hall.....	21,089.50	21,089.50
	<u>2,309,608.83</u>	<u>2,408,014.05</u>
Less Depreciation Hospital Equipment.....	312,000.00	430,800.00
	<u>1,997,608.83</u>	
TOTAL—EXHIBIT A.....	<u>(-20,394.78)</u>	<u>1,977,214.05</u>

SCHEDULE 9

# CURRENT FUNDS RESTRICTED

For the Year Ended August 31, 1952

## ORGANIZED RESEARCH FUNDS

FUNDS	Balance August 31, 1951	Receipts	Disbursements			Balance August 31, 1952
			Salaries	Other Expense	Total	
SCHOOL OF MEDICINE						
Abbott Laboratories, . . . . .	9,982.13	1,800.00	1,300.00	145.00	1,445.00	355.00
Abbott, Lilly, and Upjohn . . . . .	5,252.50	7,442.00	10,610.11	3,692.63	14,302.74	5,574.39
Arthritis . . . . .	149.00	6,144.00	590.06	1,243.17	1,833.23	10,861.27
Baxter Laboratory . . . . .	1,411.63		5,700.00	593.00	6,293.00	
Burroughs-Wellcome and Co. . . . .	929.81	110.00	1,142.50	17.55	1,160.05	251.58
Cancer Control . . . . .	1,369.80	35.00				1,039.81
Cardiology . . . . .	124.90			60.36	60.36	1,344.44
Ceslin Cummings . . . . .	462.10			69.00	69.00	55.90
Ciba Pharmaceutical Products . . . . .		500.00				462.10
Davis and Geck . . . . .	2,186.31					500.00
Freeman, Keen, Memorial . . . . .	366.00	10.00	1,170.00	1,315.09	2,485.09	
Hodskins Disease . . . . .	27.43			27.43	27.43	376.00
Hopkins, Ferd T., and Son. . . . .	2,507.17	500.00			399.00	2,608.17
Hutchins, Helen F. . . . .		7,305.53	3,667.67	2,888.13	6,555.80	749.73
Institute for the Study of Anesthetic and Sedative Drugs . . . . .	153.76					153.76
International Cellulose Products . . . . .	1,310.00	(-1,310.00)				
Johnson and Johnson Co. . . . .						





**CURRENT FUNDS RESTRICTED (Continued)**  
**For the Year Ended August 31, 1952**  
**ORGANIZED RESEARCH FUNDS (Continued)**

FUNDS	Balance August 31, 1951	Receipts	Disbursements			Balance August 31, 1952
			Salaries	Other Expense	Total	
SCHOOL OF MEDICINE (Continued)						
United States Public Health Service—	427.00					
E-43-C3		(-1.20)	266.64	159.16	425.80	966.85
E-43-C4		4,136.00	1,416.61	1,752.54	3,169.15	8,860.00
A-66		10,000.00	400.00	740.00	1,140.00	
H-130-C2	1,908.14	(-222.78)		1,685.36	1,685.36	
H-130-C3		10,935.43	7,526.66	3,408.77	10,935.43	
H-130-C4		6,897.23	1,246.00	1,095.96	2,341.96	4,555.27
H-142-C	3,717.82	(-3,130.73)	208.33	378.76	587.09	1,250.28
H-142-C2		6,751.00	4,038.52	1,462.20	5,500.72	5,502.00
H-142-C3		5,502.00				550.31
RG-200-CR		837.00		286.69	286.69	
C-308-C4	6,851.28	(113.66)	5,150.00	1,587.62	6,737.62	3,993.78
C-308-C5		6,388.12	1,658.34	736.00	2,394.34	2,479.18
E-314		4,127.00	665.94	981.88	1,647.82	
RG-631-C4	2,226.61	135.44	1,275.00	1,087.05	2,362.05	
RG-631-C5		3,103.45	600.00	335.90	935.90	2,167.55
H-1034		9,919.00	5,439.40	2,756.42	8,195.82	1,723.18
H-1034-C		5,124.00				5,124.00
H-1170		5,000.00	1,820.00	132.16	1,952.16	3,047.84
C-1388	3,152.05	(-1,306.46)	275.00	1,570.59	1,845.59	
RG-3032	2,238.27			561.85	561.85	1,676.42
G-3218	5,494.00	(-12.28)	5,092.35	389.37	5,481.72	
G-3218-C		3,262.28	475.00	495.00	970.00	2,292.28
G-3223	4,536.00			1,959.03	4,121.53	414.47
2M 5580 C		8,509.14	8,378.95	130.19	8,509.14	
2M 5580 C2		6,988.20	1,633.32	572.00	2,205.32	4,782.88
2M 5587	13,492.84	(-2,502.11)	10,949.90	30.93	10,980.73	
2M 5587 C		10,982.11	1,906.68	1,111.00	3,017.68	6,964.43



**CURRENT FUNDS RESTRICTED (Continued)**  
**For the Year Ended August 31, 1952**  
**ORGANIZED RESEARCH FUNDS (Continued)**

FUNDS	Balance August 31, 1951	Receipts	Disbursements			Balance August 31, 1952
			Salaries	Other Expense	Total	
<b>HOSPITAL</b>						
District of Columbia Tuberculosis Association.....	2,625.29	3,388.98	4,049.96	55.96	4,105.92	1,908.35
Marcelle Fleischmann Foundation.....	720.07					720.07
Smith, Kline, and French Laboratories.....	54.00					54.00
	3,399.36	3,388.98	4,049.96	55.96	4,105.92	2,682.42
<b>PHARMACY</b>						
E. I. duPont de Nemours and Co.....	89.68			89.68	89.68	
Proprietary Association.....	679.86					679.86
	769.54			89.68	89.68	679.86
<b>PSYCHOLOGY</b>						
Civil Aeronautics Administration—Cca-29328.....		345.30	287.75	57.55	345.30	
Cooper.....		500.00	21.75	69.31	91.06	
Grant Advertising.....		16,380.22	7,894.88	8,485.34	16,380.22	408.94
		17,225.52	8,204.38	8,612.20	16,816.58	408.94
<b>CHEMISTRY</b>						
Research Corporation—Sager.....	2,412.51		750.00	233.61	983.61	1,428.90
United States Army—DN-49-187-NID-128.....	513.91	1,200.00	1,125.00	267.93	1,392.93	120.98
United States Atomic Energy Commission—AT-30-1-821.....	2,042.45	1,071.44	511.11	500.33	1,071.44	2,068.75
		4,616.50	3,224.98	1,545.22	4,770.20	



United States Navy—N7ont—419-02										497.60	147.50	2,240.05	4,586.30	4,586.30	
United States Navy—Nour—15500										4,586.40	2,156.25	2,240.05	4,586.30		
Physics										5,568.87	11,971.84	8,104.84	5,197.24	13,302.08	4,238.63
United States Navy—N7ont—419-02										10,182.32	6,309.17	3,873.15	10,182.32		
" "															

# CURRENT FUNDS RESTRICTED (Continued)

For the Year Ended August 31, 1952

## INCOME OF ENDOWMENT AND PLANT FUNDS

FUNDS	Balance August 31, 1951	Net Income for Year	Disposition		Balance August 31, 1952
			Current Operations	Added to Principal	
ENDOWMENT FUNDS (Schedule 12)					
UNRESTRICTED					
Acker.....		13.63	13.63		
Alumni.....		30.95	30.95		
Campaign.....		8,439.88	8,439.88		
Corcoran.....		10,001.97	10,001.97		
Davis.....		1,888.83	1,888.83		
Goddard.....		1,526.73	1,526.73		
Haggett.....		45.44	45.44		
King.....		873.09	873.09		
Pooler.....		37.71	37.71		
Reichelderfer.....		681.56	681.56		
Sanders.....		95.87	95.87		
Southern.....		227.18	227.18		
Subscription Gifts.....		569.12	569.12		
Syms.....		68.15	68.15		
Teller.....		855.12	855.12		
Trustees.....		70.06	70.06		
Weddell.....		454.37	454.37		
Willard Association.....		45.44	45.44		
Withers.....		1,221.87	1,221.87		
Woodhull.....		2,271.85	2,271.85		
			29,418.82		
SCHEDULE 1					
RESTRICTED					
Fellowship.....	3,191.23	3,422.38	1,000.00		5,613.61
King.....	359.98	8,380.79	8,584.00		156.77
Sanders.....					
Professorships.....					
Alumni.....	309.09	37.70	37.70		331.81
Carrall.....		22.72			
Congressional.....		7,211.26	7,211.26		
Depew.....		7,751.16	7,751.16		
Elton.....		659.21	659.21		
Plant Funds.....		7,727.76	6,900.00	842.76	
Value.....		7,727.18			
School of Government—Scottish Rite.....	4,136.78	86,878.74	46,878.74		4,363.96

School of Medicine

Borden.....	599.93	161.09	161.09	728.43
Collins.....	7,322.36	454.37	454.37	7,776.73
Cooper.....		45.44	45.44	
Eppley.....		203.86	203.86	
Gardner.....		1,817.55	1,817.55	
Lewis.....		2,176.66	2,176.66	
Ruffin.....		404.39	404.39	
School of Medicine.....		276.86	276.86	
Sharp.....		454.37	454.37	
School of Pharmacy—Gibbs.....		626.12	626.12	
Miscellaneous.....		89.06	89.06	
Graduate.....				
Howard.....				

SCHEDULE I

Hospital

Burton.....		85,027.32		
Chapman.....		45.44		
Clephane.....		55.70		
General.....		39.76		
Houser.....		54.98		
Kimmel.....		113.59		
Kulibank.....		139.57		
National Park Seminary.....		58.44	58.44	
Reinhardt.....		22.72		
Tee.....		22.72		
Woodbury.....		454.37		
		454.37		
		1,401.22		

SCHEDULE I

Library

Gladstone.....	1.11			9.06
Hensley.....		7.95		11.59
Howard.....		11.59		1,784.12
Meyer.....	1,399.51	454.37	69.76	211.95
Noyes.....	1,66.51	45.44		1,937.68
Swisher.....	1,693.76	454.37	210.45	832.23
	741.36	90.87		
			280.21	

EXHIBIT G



**CURRENT FUNDS RESTRICTED (Continued)**  
For the Year Ended August 31, 1952  
**INCOME OF ENDOWMENT AND PLANT FUNDS (Continued)**

Funds	Balance August 31, 1951	Net Income for Year	Disposition		Balance August 31, 1952
			Current Operations	Added to Principal	
ENDOWMENT FUNDS (Continued)					
RESTRICTED (Continued)					
Scholarship					
Andrews .....	82.50	206.45			288.95
Bartsch .....	3,220.96	910.24	680.00		3,451.20
Carr .....	7,404.67	1,208.64	2,220.00		7,393.31
Carter, H. H. ....	1,535.63	227.18			1,762.81
Carter, M. M. ....	287.13	45.44	50.00		282.57
Columbian Women Funds					
Brown .....	55.45	54.52	55.45		54.52
Chamberlin .....	106.27	104.50	106.27		104.50
College Women's ..	23.10	22.72	23.10		22.72
Founders of Columbian Women	231.03	227.18	231.03		227.18
Herron .....	231.03	227.18	231.03		227.18
Knapp .....	231.03	227.18	231.03		227.18
Wilson .....	46.21	45.44	46.21		45.44
Davis .....	202.31	45.44	50.00		197.75
D.C.—D.A.R. ....	266.21	306.52			306.52
Dorsey .....	197.13	305.43	210.00		361.64
Farnham .....		45.84		27.49	242.57
Fisher .....	41.03	22.72			63.75
Hampel .....	(—15.22)	118.75	100.00		3.53
Harvey .....	334.64	227.18			561.82
Hazelton .....	369.15	270.79	369.15		270.79
Kendall .....	520.70	68.15			588.85
Morehouse .....	530.97	129.03	200.00		460.00
Pearson .....	14,183.75	2,271.85			16,455.60
Powell .....	1,495.08	454.37	360.00		1,589.45
Shepard .....	447.49	79.00	150.00		376.49
Spencer .....	575.66	573.99		573.99	666.53
Stone .....	867.83	113.59			981.42
Swisher .....	311.29	88.74			400.03
Walker .....	122.48	27.26	30.00		119.74
Withington .....					
Woodhull .....					

Prize	143.16	45.44	150.00	188.60
Burns	209.30	136.31	50.00	195.61
Cowles	82.09	45.44	50.00	77.51
Croissant	136.65	45.44	50.00	132.09
Cuttler	198.15	31.80		229.95
Davis	108.74	136.31		245.05
Essary	102.80	54.52	60.00	97.32
Evans	272.80	45.44	75.00	250.24
Fitch	605.17	250.77	300.00	555.94
Goddard	141.51	45.44	60.00	126.95
Hubbard	78.55	36.35	20.00	107.34
Larner	188.55	227.18	400.00	551.69
Ordronaux	143.39	22.72	35.00	76.27
Rugles	317.13	13.63	13.75	141.27
Staughton-Eilton	412.00	45.44		43.27
Swisher	788.09	227.18	300.00	362.57
Walsh				457.44
Weddell				725.27
Prizes Awarded			1,513.75	
Endowment Net Income	132,368.09			
Plant Funds (Schedule 13)				
Field House		5.37		5.37
Law School Expansion		230.89		230.89
Patio (income used for athletics)		6,340.72		
School of Engineering Building		7,663.58		7,663.58
School of Medicine Building		51.05		51.05
Women's Activities Building		139.63		139.63
Schedule 1			6,340.72	
TOTALS—EXHIBIT C	58,427.71	146,799.33	129,327.31	9,754.29
				66,145.44

**CURRENT FUNDS RESTRICTED (Continued)**  
**For the Year Ended August 31, 1952**  
**MISCELLANEOUS FUNDS**

Funds	Balance August 31, 1951	Gifts and Receipts	Disbursements	Balance August 31, 1952
<b>SCHOLARSHIP, FELLOWSHIP</b>				
Alpha Zeta Omega Pharmaceutical Fraternity...	200.00	500.00		500.00
American Foundation Pharm. Education...		200.00		400.00
Dorsey, Charles W.		420.00		60.00
Freeman and Watts, Drs.	500.00	700.00	Scholarships.	600.00
Kellogg Medical Technology	1,350.00		To Schedule 1.	1,350.00
Kinsey, R. D.	200.00			
Meyer Foundation			Scholarships.	200.00
President's		2,500.00		2,500.00
Soroptimist Club	950.00	750.00	Fellowships	950.00
Tripp, Chester D.		500.00	Scholarships.	70.00
Zonta Club	300.00		Scholarships.	
<b>Prize</b>				
Alpha Delta Pi Sorority		10.00	Prize	10.00
Alpha Zeta Omega Pharm. Fraternity	35.60	50.00	"	63.10
Cannon, Martin L.		25.00		25.00
Chi Omega Sorority		25.00	Prize	
Delta Zeta Sorority		10.00	"	
Ellsworth		25.00	"	
Kappa Kappa Gamma Sorority		10.00	"	
Kappa Psi Fraternity		75.00		
Pi Beta Phi Sorority		20.00	Prize	75.00
Psi Chi Sorority		50.00	"	
Sigma Kappa Sorority		10.00	"	
Student Art Show		45.00	"	
<b>Law School</b>				
Patent Foundation	22,519.71	15,045.00		37,564.71
Shan Foundation	6,594.09	20,000.00		21,594.09
			To Schedule 1	5,048.19



	2,500.00			2,500.00
<b>SCHOOL OF MEDICINE</b>				
Baxter Laboratory—Pharmacology	300.00	To Schedule 1	100.00	2,500.00
Bledorn, Dr. Walter A.	1,000.00	To Schedule 1	551.42	200.00
Dermatology and Syphilology	591.00	To Schedule 1	5,166.92	1,233.67
Markle Foundation—Dr. Beattie	6,000.00	To Schedule 1	6,000.00	2,834.25
" Dr. McGovern	6,154.00	To Schedule 1	15,000.00	5,166.76
National Fund for Medical Education	200.29	To Schedule 1		6,154.00
Obstetrics and Gynecology—Film		Expense	84.50	200.29
" Residents	139.83			55.33
<b>SCHOOL OF PHARMACY</b>				
D. C. Pharmaceutical Association	604.16	To Schedule 1	82.30	521.86
D. C. Women's Pharmaceutical Auxiliary	25.00	To Schedule 1	72.03	
Larrick, George P.		To Schedule 1	48.02	1.98
<b>SPEECH</b>				
National Speech Foundation	500.00	Expense	137.54	10.00
Speech Clinic Foundation				500.04
<b>LECTURE</b>				
Dorsey, Harryman—Public Law Lectures		To Schedule 12	3,619.32	930.84
Howard, Frank—Industrial Research Lectures	58,844.45			
<b>OTHER</b>				
Key Deposits	225.75			258.00
<b>TOTALS—EXHIBIT C</b>	66,171.77		38,777.74	86,270.73

# CURRENT FUNDS RESTRICTED (Continued)

For the Year Ended August 31, 1952

## AGENCY FUNDS

Funds	Balance August 31, 1951	Deposits	Withdrawals	Balance August 31, 1952
Courier .....	(-1,855.23)	8,539.25	8,471.97	(-1,787.95)
Engineers' Club Room .....	199.93	.....	199.93	.....
Flower Fund .....	99.35	.....	.....	99.35
Gift Shop .....	12,011.40	25,839.84	27,551.13	10,300.11
R. O. T. C. Student Fund .....	.....	129.75	95.00	34.75
Swisher History Club .....	120.75	.....	.....	120.75
Women's Board Lecture Series .....	970.00	.....	.....	970.00
Women's Board Memorial Fund .....	.....	50.00	.....	50.00
TOTALS—EXHIBIT C .....	11,546.20	34,558.84	36,318.03	9,787.01

# CHANGES IN PRINCIPAL OF LOAN FUNDS

For the Year Ended August 31, 1952

FUNDS	Balance August 31, 1951	Additions		Deductions		Balance August 31, 1952
		Gifts	Interest on Loans	Transferred to Schedule 12	Refunded to U. S. Government	
D. C.—D. A. R. Loan Fund .....	3,315.24			3,224.84		90.40
George Washington Law Association Loan Fund .....	786.10		25.32			811.42
Harris Loan Fund .....	400.00					400.00
Home Economics Loan Fund .....	382.35					382.35
Kellogg School of Medicine Loan Fund .....	16,577.47		139.69			16,717.16
School of Medicine Loan Fund .....		531.26				531.26
Sutherland School of Medicine Loan Fund .....	1,200.00	160.00				1,360.00
University Loan Fund .....	8,204.63		64.31			8,268.94
War Loan Fund .....	6,159.89				614.19	5,545.70
TOTALS EXHIBIT D .....	37,025.68	691.26	229.32	3,224.84	614.19	34,107.23

SCHEDULE 11



# CHANGES IN PRINCIPAL OF ENDOWMENT FUNDS

For the Year Ended August 31, 1952

Funds	Balance August 31, 1951	Additions			Deductions	Balance August 31, 1952
		Gifts	Investment Income	Other		
UNRESTRICTED						
Acker.....	300.00					300.00
Alumni.....	681.20					681.20
Campaign.....	186,749.38					186,749.38
Corcoran.....	220,155.76					220,155.76
Davis.....	41,570.40					41,570.40
Goddard.....	33,601.15					33,601.15
Haggett.....	1,000.00					1,000.00
King.....	19,215.50					19,215.50
Poole.....		1,000.00				1,000.00
Reichelderfer.....	15,000.00					15,000.00
Sanders.....	2,110.00					2,110.00
Sothern.....	5,000.00					5,000.00
Subscription Gifts.....	12,525.56					12,525.56
Syms.....	1,500.00					1,500.00
Teller.....	11,104.14	10,088.00				21,192.14
Trustees.....	1,524.06	40.00				1,564.06
Weddell.....	10,000.00					10,000.00
Willard Association.....	1,000.00					1,000.00
Withers.....	26,891.46					26,891.46
Woodhull.....	50,000.00					50,000.00

## RESTRICTED

## FELLOWSHIP

King.....	75,321.42	75,321.42
Sanders.....	206,806.87	206,806.87
Net loss on sale of investments.....		590.73
		206,216.14

# PROFESSORSHIP

Alumai	829.67	829.67
Carroll	500.00	500.00
Congressional	158,709.04	158,709.04
Depew	170,591.45	170,591.45
Elton	14,508.19	14,508.19
Fry (controlled by the University)	32,120.55	32,120.55
Fry (controlled by National Savings and Trust Co.)	105,087.77	105,087.77
Yulee	5,000.00	5,000.00
	842.76	842.76

# CHANGES IN PRINCIPAL OF ENDOWMENT FUNDS (Continued)

For the Year Ended August 31, 1952

Funds	Balance August 31, 1951	Additions			Deductions	Balance August 31, 1952
		Gifts	Investment Income	Other		
RESTRICTED (Continued)						
School.						
Government						
Rankin.....	150,000.00					150,000.00
Scottish Rite.....	1,000,000.00					1,000,000.00
Medicine						
Borden.....	3,545.38		161.09			3,706.47
Collins.....	2,828.00					2,828.00
Cooper.....	10,000.00					10,000.00
Eppley.....	1,000.00					1,000.00
Gardner.....	4,486.55					4,486.55
Lewis.....	32,298.60					32,298.60
Ruffin.....		57,486.71				57,486.71
School of Medicine.....	8,611.00	745.00				9,356.00
Sharpe.....	8,334.13					
Net loss on sale of investments.....					126.73	8,207.40
Pharmacy						
Gibbs.....	10,000.00					10,000.00



MISCELLANEOUS

D. C.—D. A. R. . . . .  
 Transferred to Schedule 12—Page 3  
 Graduate . . . . .  
 Howard—Transferred from Schedule 10

5,000.00				5,000.00	13,959.57
13,613.57	346.00			3,619.32	3,619.32

HOSPITAL

Burton . . . . .	1,000.00				1,000.00
Chapman . . . . .	1,225.90				1,225.90
Clephane . . . . .		1,000.00			1,000.00
General . . . . .	1,210.00				1,210.00
Houser . . . . .	2,500.00				2,500.00
Kimmel . . . . .	3,071.70				3,071.70
Kuhlbank . . . . .	1,286.28		58.44		1,344.72
National Park Seminary . . . . .	500.00				500.00
Reinhardt . . . . .	500.00				500.00
Strong . . . . .		15,000.00			15,000.00
Tree . . . . .	10,000.00				10,000.00
Woodbury . . . . .	10,000.00				10,000.00

LIBRARY

Gladstone . . . . .	175.00				175.00
Hensey . . . . .		255.00			255.00
Howard . . . . .	10,000.00				10,000.00
Meyer . . . . .	1,000.00				1,000.00
Noyes . . . . .	10,000.00				10,000.00
Swisher . . . . .	2,000.00				2,000.00

# CHANGES IN PRINCIPAL OF ENDOWMENT FUNDS (Continued)

For the Year Ended August 31, 1952

Funds	Balance August 31, 1951	Additions			Deductions	Balance August 31, 1952
		Gifts	Investment Income	Other		
RESTRICTED (Continued)						
SCHOLARSHIP						
Andrews.....	5,194.03					5,194.03
Bartsch.....	20,033.06					20,033.06
Carr.....	48,608.91					48,608.91
Carter, H. H.....	5,000.00					5,000.00
Carter, M. M.....	1,000.00					1,000.00
Columbian Women Funds						
Brown.....	1,200.00					1,200.00
Chamberlin.....	2,300.00					2,300.00
College Women's.....	500.00					500.00
Founders of Columbian Women.....	5,000.00					5,000.00
Herron.....	5,000.00					5,000.00
Knapp.....	5,000.00					5,000.00
Wilson.....	1,000.00					1,000.00





### CHANGES IN PRINCIPAL OF ENDOWMENT FUNDS (Continued)

For the Year Ended August 31, 1952

Funds	Balance August 31, 1951	Additions			Deductions	Balance August 31, 1952
		Gifts	Investment Income	Other		
<b>RESTRICTED (Continued)</b>						
Paiz						
Burns.....	1,000.00					1,000.00
Cowles.....	3,000.00					3,000.00
Croissant.....	1,000.00					1,000.00
Cutter.....	1,000.00					1,000.00
Davis.....	700.00					700.00
Essary.....	3,000.00					3,000.00
Evans.....	1,200.00					1,200.00
Fitch.....	1,000.00					1,000.00
Goddard.....	5,519.00					5,519.00
Hubbard.....	1,000.00					1,000.00
Larnet.....	800.00					800.00
Ordronaux.....	5,000.00					5,000.00

Ruggles.....	500.00	.....	.....	.....	500.00
Staughton-Elton.....	500.00	.....	.....	.....	500.00
Sterrett.....	300.00	.....	.....	.....	300.00
Swisher.....	1,000.00	.....	.....	.....	1,000.00
Walsh.....	1,000.00	.....	.....	.....	1,000.00
Weddell.....	5,000.00	.....	.....	.....	5,000.00
	2,961,263.49	87,858.21	1,663.77	11,844.16	5,717.46
<b>RESERVES FOR PROTECTION OF INVESTMENTS</b>					
Consolidated Endowment Funds.....	76,550.46	.....	7,753.91	.....	.....
Net gain on sale of investments.....	.....	.....	.....	1,254.86	85,559.23
Scottish Rite Fund.....	61,883.38	.....	.....	.....	.....
Net loss on sale of investments.....	.....	.....	.....	23.75	61,859.63
	1,099,697.33	87,858.21	9,417.68	13,099.02	5,741.21
<b>TOTALS—EXHIBIT E.....</b>					<b>3,204,331.03</b>

### CHANGES IN PRINCIPAL OF PLANT FUNDS

For the Year Ended August 31, 1952

Fund	Balance August 31, 1951	Additions			Deductions	Balance August 31, 1952
		Gifts	Investment Income	Other		
<b>PLANT ADDITIONS</b>						
Field House.....	196.03		5.37			201.40
George Washington Memorial.....	3,213.92				3,213.92	
Auditorium construction.....		7,819.83			7,819.83	
Hospital Equipment.....		20.00	230.89			8,685.36
Equipment purchased.....	8,434.47					
Law School Expansion.....						
Library Book Funds.....	150.00				68.00	82.00
American Diplomatic History.....	10.52				9.00	1.52
Books purchased.....	405.50					405.50
Books purchased.....	50.00					50.00
Brooklyn Alumni Club.....	58.57					58.57
Chase, R. Ch. Judith.....	328.81					328.81
Class of 1943.....	25.00					25.00
Council of Religious Organizations.....	1,000.00					1,000.00
Davis, Harry.....	10.54				10.54	
Ellison, Newell W.....						
Engineers.....	225.00					225.00
Books purchased.....	100.00					100.00
Hellenic Society.....						
Hebrew, Louise C.....						





## GIFTS AND GRANTS

For the Year Ended August 31, 1952

### CURRENT FUNDS

UNRESTRICTED—SCHEDULE 1	.28
Estate of Susan Whitney Dimock.....	

RESTRICTED—GENERAL—SCHEDULE 1	
Alumni Office—General Alumni Association.....	100.00
Biochemistry—Baxter Laboratory.....	300.00
Law School—Food Law Institute.....	1,000.00
School of Medicine—Dr. John W. Kemble.....	100.00
	<u>1,500.00</u>

RESTRICTED—HOSPITAL—SCHEDULE 1	
Various donors.....	635.10

RESTRICTED—SCHEDULE 10—PAGE 3	
Organized Research—Various donors and grantors.....	1,367,683.70

RESTRICTED—SCHEDULE 10—PAGE 6	
Scholarship, Fellowship—American Foundation for Pharmaceutical Education.....	200.00
" " " " Harryman Dorsey.....	420.00
" " " " Drs. Freeman and Watts.....	700.00
" " " " Soroptimist Club.....	750.00
" " " " Chester D. Tripp.....	500.00
" " " " Meyer Foundation.....	500.00
" " " " Alpha Zeta Omega Pharmaceutical Fraternity.....	2,500.00
Prize—various donors.....	355.00
Law School—Patent Foundation.....	15,045.00
Sloan Foundation.....	20,000.00
Department of Religion—Milbank Foundation.....	2,500.00
School of Medicine—Baxter Laboratory.....	300.00
" " " " Dr. Walter A. Bloodora.....	1,000.00
" " " " Dermatology and Syphilology—Dr. H. Ford Anderson.....	591.00
" " " " Markle Foundation.....	6,000.00
" " " " National Fund for Medical Education.....	6,154.00
" " " " Obstetrics and Gynecology—Film—Association of American Medical Societies.....	200.29
School of Pharmacy—D. C. Pharmaceutical Association.....	604.16
George F. Larrick.....	25.00
Speech Department—Milbank Foundation.....	500.00
	<u>58,844.45</u>
	1,428,663.53

LOAN FUNDS (Schedule 11)			
School of Medicine Loan Fund—Medical School Students.....			
Sutherland School of Medicine Loan Fund—The 1931 Speculum.....			
<b>ENDOWMENT FUNDS (Schedule 12)</b>			
<b>UNRESTRICTED</b>			
Poole Endowment Fund—George Poole.....	1,000.00		
Teller Endowment Fund—John D. and Mary L. Teller.....	10,088.00		
Trustees Endowment Fund—Godfrey L. Munter.....	40.00		
			11,128.00
<b>RESTRICTED</b>			
School of Medicine			
Ruffin Endowment Fund—Dr. Sterling Ruffin.....	57,486.71		
School of Medicine Endowment Fund—various donors.....	745.00		
Miscellaneous			
Graduate Endowment Fund—various donors.....		346.00	
Hospital			
Clephane Hospital Endowment Fund—Washington Alumnac			
Zeta Tau Alpha Sorority.....	1,000.00		
Strong Hospital Endowment Fund—Hattie M. Strong.....	15,000.00		
Library			
Hensley Library Endowment Fund—D. C. Masonic Clubs.....		255.00	
Scholarship			
Dorsey Scholarship Endowment Fund—Harryman Dorsey.....	1,000.00		
Fisher Scholarship Endowment Fund—Father Hugham Fisher.....	797.50		
Swisher Scholarship Endowment Fund—Dr. Charles Clinton Swisher.....	100.00		
	1,897.50		76,730.21
			87,858.21
<b>PLANT FUNDS (Schedule 13)</b>			
Hospital Equipment Fund—various donors.....			7,819.83
Law School Equipment Fund—Blayne J. Barton.....			20.00
Library Book Fund—various donors.....			100.00
School of Engineering Building Fund—Charles H. and Lida R. Tompkins.....	19,554.39		
Women's Activities Building Fund—various donors.....	9,500.00		
			29,054.39
			470.97
			37,465.19
<b>TOTAL GIFTS AND GRANTS.....</b>			
			1,554,678.19



# DESCRIPTION OF LOAN FUNDS

August 31, 1952

DISTRICT OF COLUMBIA D. A. R. LOAN FUND Created in 1938 from income of the D. C.—D. A. R. Endowment Fund. To be loaned to descendants of patriots of the American Revolution.....	90.40
GEORGE WASHINGTON LAW ASSOCIATION LOAN FUND Created in 1941 by the George Washington Law Association to be loaned to students of the Law School.....	811.42
HARRIS LOAN FUND Created in 1950 by gift of George W. Harris to be loaned to an orthoptic technician student.....	400.00
HOME ECONOMICS LOAN FUND Created in 1940 by the D. C. Home Economics Association to be loaned to senior girls majoring in home economics....	382.35
KELLOGG LOAN FUND Created in 1942 by the W. K. Kellogg Foundation to be loaned to students of the School of Medicine.....	16,717.16
SCHOOL OF MEDICINE LOAN FUND Created in 1952 by School of Medicine students to be loaned to students of the School of Medicine.....	531.26
SUTHERLAND LOAN FUND Created in 1941 by Rose L. Sutherland and other donors, to be loaned to students of the School of Medicine.....	1,360.00
UNIVERSITY LOAN FUND Created in 1928 by the University to make short time loans for educational purposes.....	8,268.94
WAR LOAN FUND Created in 1942 by the United States Government to be loaned to students in technical and professional fields of national defense.....	5,545.70

— 88 —

August 31, 1952

## UNRESTRICTED FUNDS

ACKER FUND		
Bequest of George N. Acker, M. D., received in 1924, the income to be used as required.....		300.00
ALUMNI ENDOWMENT FUND		
Created by the Class of 1920, to be added to by succeeding graduating classes, the income to be used as required.....		681.20
CAMPAIGN FUND		
Created in 1923 by various donors, the income to be used as required.....		186,749.38
CORCORAN FUND		
Gift of William W. Corcoran of \$112,000 and gifts of other donors between the years 1871-86, the income to be used as required.....		220,155.76
DAVIS FUND		
Bequest of Harry C. Davis, received in 1946, the income to be used as required.....		41,570.40
GODDARD ENDOWMENT FUND		
Bequest of Frederick J. Goddard, received in 1949, the income to be used as required.....		33,601.15
HAGGETT FUND		
Created in 1941 by Isabelle Barnes Haggett, the income to be used as required.....		1,000.00
KING, W. B., FUND		
Created in 1941 by William B. King, the income to be used as required.....		19,215.50
POOLE FUND		
Bequest of George Poole in 1951, the income to be used as required.....		1,000.00
REICHELDERFER FUND		
Created by Mary M. Reichelderfer in 1945 in memory of her husband, Luther H. Reichelderfer, the income to be used as required.....		15,000.00

APPENDIX—PAGE 2

# DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1952

## UNRESTRICTED FUNDS (Continued)

<b>SANDERS ENDOWMENT FUND</b> Created by J. Sanders in 1945, the income to be used as required.	2,110.00
<b>SOthern FUND</b> Bequest of Julia Marlowe Sothern, received in 1951, the income to be used as required.	5,000.00
<b>SUBSCRIPTION GIFTS FUND</b> Created by various donors during the years 1845-51, the income to be used as required. (Formerly called the Poindexter Endowment Fund).	12,525.26
<b>SYMS FUND</b> Bequest of Samuel Syms in 1891, the income to be used as required.	1,500.00
<b>TELLER FUND</b> Bequest of John D. Teller and Mary L. Teller, received in 1949, the income to be used as required.	21,192.14
<b>TRUSTEES FUND</b> Created by the Board of Trustees of the University in 1932, the income to be used as required.	1,564.06
<b>WEDDELL FUND</b> Created in 1948 by bequests of Alexander W. Weddell and Virginia Chase Weddell, the income to be used as required.	10,000.00
<b>WILLARD ASSOCIATION FUND</b> Gift of the Willard Association in 1950, the income to be used as required.	1,000.00
<b>WITHERS FUND</b> Gift of John Withers of \$16,000 and gifts of various donors during the years 1851-70, the income to be used as required. (Formerly called the Forty Thousand Dollar Endowment Fund).	26,891.46
<b>WOODHULL FUND</b> Bequest of Margaret Willett Woodhull, received in 1946, the income to be used as required.	50,000.00



# FELLOWSHIP FUNDS

## King Fellowship Fund

Created in 1928 by bequest of Isabella Osborn King, the income to be used for a fellowship in biology. . . . . 75,321.42

## Sanders Fellowship Fund

Bequest of Addie Sanders in 1928 in memory of her brother, Thomas Bradford Sanders, the income to be used for fellowships in various academic fields of study. . . . . 206,216.14

## PROFESSORSHIP FUNDS

### ALUMNI PROFESSORSHIP FUND

Gifts of various alumni since 1911, the income to be used for an alumni professorship in mathematics. . . . . 829.67

### CARROLL PROFESSORSHIP FUND

Created by Mary A. Sharpe in 1928 in memory of Mitchell Carroll, the income to be used for a chair in archeology. . . . . 500.00

### CONGRESSIONAL PROFESSORSHIP FUND

Created in 1832 by gift of the United States of America by Act of Congress, the income to be used for professorships. . . . . 158,709.04

### DEPEW COURSE IN PUBLIC SPEAKING FUND

Created by May Depew in 1936, the income to be used for a course to be known as the "Chauncey M. Depew Course in Public Speaking". . . . . 170,591.45

### ELTON PROFESSORSHIP FUND

Bequest of Romeo Elton of Exeter, England, in 1872, the income to be used for a professorship to be called the "Elton Professorship of Mental and Moral Philosophy". . . . . 14,508.19

### FAY PROFESSORSHIP FUNDS

Bequest of Annabel Lee Fry, received in 1945, in memory of her husband, Dr. Henry D. Fry, the income to be used for a professorship in physiology. . . . . 105,087.77

Created in 1945 from income of the original fund, the income of the two funds to be used for a professorship in physiology. . . . . 32,963.31

### YULEE ENDOWMENT FUND

Bequest of Nannie Yulee Noble in 1929 in memory of her mother, Nancy Yulce, the income to be used for lectures in home economics. . . . . 5,000.00

DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1952

SCHOOL FUNDS

GOVERNMENT	
RANKIN ENDOWMENT FUND	
Bequest of John O. Rankin, received in 1951, the income to be used for the School of Government.....	150,000.00
SCOTTISH RITE ENDOWMENT FUND	
Created in 1928 by the Supreme Council of the Ancient and Accepted Scottish Rite of Freemasonry of the Southern Jurisdiction of the United States of America, as a permanent memorial to George Washington, The Mason, the income to be used to maintain a School of Government.....	1,000,000.00
MEDICAL	
BORDEN MEDICAL FUND	
Created in 1932 by William Cline Borden, M. D., and Jennie Ella Borden, the income to be applied to lectureships to be known as the "William Cline Borden Lectures on Surgery or Medical Science." Any income not required annually shall be added to principal.....	3,706.47
COLLINS MEMORIAL RESEARCH FUND	
Created in 1946 by various donors in memory of Dr. James Lloyd Collins, the income to be used for special research in surgery.....	2,828.00

#### COOPER MEDICAL RESEARCH FUND

Bequest of Eleanor J. Cooper in 1905, on certain terms since modified by the Supreme Court of D. C. as follows: the income to be used toward the establishment and maintenance, in connection with the Medical Department of the University, of a Research Laboratory, the work of this laboratory to be devoted to the investigation of the nature, causation, prevention, and cure of malaria and other infectious and contagious diseases.

10,000.00

#### EPPLEY MEDICAL SCHOOL FUND

Bequest of Mary V. Eppley, received in 1951, the income to be used for cancer research in the School of Medicine.

1,000.00

#### GARDNER MEDICAL SCHOOL FUND

Bequest of William D. Gardner, received in 1928, the income to be used for the School of Medicine.

4,486.55

#### LEWIS MEDICAL SCHOOL FUND

Bequest of Samuel E. Lewis, received in 1925, the income to be used for the School of Medicine.

32,298.60

#### RUFFIN MEDICAL SCHOOL FUND

Bequest of Dr. Sterling Ruffin in 1951, the income to be used for the School of Medicine.

57,486.71

#### SCHOOL OF MEDICINE ENDOWMENT FUND

Created in 1940 by various donors, the income to be used for the School of Medicine.

9,356.00

#### SHARPE MEDICAL SCHOOL FUND

Created by Mary A., Elizabeth M., and Sallie Sharpe in 1924, the income to be used for the School of Medicine.

8,207.40

#### PHARMACY

##### GIBBS PHARMACY FUND

Created by M. G. Gibbs in 1927, the income to be used to aid in establishing and maintaining a commercial pharmacy course in connection with the School of Pharmacy.

10,000.00



# DESCRIPTION OF ENDOWMENT FUNDS

August 31, 1952

## MISCELLANEOUS FUNDS

### GRADUATE ENDOWMENT FUND

Created by the Class of 1926, to be used for the acquisition of sites, erection of buildings, and maintenance and purchase of equipment. Only the income may be used until Fund reaches \$50,000 when income, and principal over \$50,000, may be used.....

13,959.57

### HOWARD LECTURE FUND

Created in 1952 by Frank A. Howard, the income to be used for lectures on engineering.....

3,619.32

## HOSPITAL FUNDS

### BURTON HOSPITAL FUND

Created by Grace C. Burton in 1950, the income to be used for medicine for indigent persons.....

1,000.00

### CHAPMAN HOSPITAL FUND

Bequest of Mrs. Susanna A. Chapman in 1911, the income to be used for the purposes of the free wards of the University Hospital.....

1,225.90

### CLEPHANE HOSPITAL FUND

Gift in 1951 of Washington Alumnae of Zeta Tau Alpha Sorority, in memory of Beatrice A. Clephane, the income only to be used for the hospital.....

1,000.00

### GENERAL HOSPITAL FUND

Created in 1929 by various donors, the income to be used for the benefit of the University Hospital.....

1,210.00

### HOUSER HOSPITAL FUND

Bequest of E. Keller Houser, received in 1944, the income to be used to endow a room in memory of his daughter, Anna Victoria Houser.....

2,500.00

### KIMMEL HOSPITAL FUND

Bequest of Annie Kimmel, received in 1932, the income to be used for the benefit of the University Hospital.....

3,071.70

### KUHLBANK HOSPITAL FUND

Bequest of Freda Kuhlbank, received in 1930, the income to be added to the principal until the principal shall be large enough to maintain a bed in the White Ward of the University Hospital to be known as the "Freda Kuhlbank Bed".....

1,344.72

<i>National Park Seminary Hospital Fund</i> Gift of students of National Park Seminary of Forest Glen, Maryland, in 1906, the income to be used toward the maintenance of a bed in the University Hospital.....		500.00
<i>REINHARDT HOSPITAL FUND</i> Bequest of Luisa Wynne Reinhardt in 1922, the income to be used for the University Hospital.....		500.00
<i>STRONG HOSPITAL FUND</i> Gift of estate of Hattie M. Strong in 1952, the income to be used for the hospital.....		15,000.00
<i>TREE HOSPITAL FUND</i> Created in 1911 by bequest of Lambert M. Tree, in memory of his mother, Mrs. Laura M. Tree, the income to be used to maintain one or more beds in the University Hospital, to be known as the "Laura M. Tree Bed or Beds".....		10,000.00
<i>WOODBURY HOSPITAL FUND</i> Bequest of Ellen DeQ. Woodbury in 1909, the income to be used for the reception and treatment of female patients in the University Hospital.....		10,000.00

#### LIBRARY FUNDS

<i>GLADSTONE LIBRARY FUND</i> Gift of Ethel S. Gladstone in 1951, the income to be used to purchase books for the Library.....		175.00
<i>HENSEY LIBRARY FUND</i> Gift of D. C. Masonic Clubs in 1951, the income to be used to purchase books for the Library.....		255.00
<i>HOWARD LIBRARY FUND</i> Gift of Colonel Deane Childs Howard in 1943 in memory of Captain Deane Childs Howard, Jr., the income to be used to purchase books for the Library.....		10,000.00
<i>MEYER LIBRARY FUND</i> Gift of Eugene Meyer in 1944, the income to be used to purchase books for the Library.....		1,000.00
<i>NOYES LIBRARY FUND</i> Bequest of Theodore W. Noyes, received in 1947, the income to be used to purchase books for the Library.....		10,000.00
<i>SWISHER ALCOVE BOOK FUND</i> Gift of Dr. Charles Clinton Swisher in 1941, in trust for the Historical Society of the University, the income to be used to purchase books for the Swisher Alcove in the Library.....		2,000.00

DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1952

SCHOLARSHIP FUNDS

ANDREWS MEMORIAL SCHOLARSHIP FUND Gift of Belle Fisk Andrews in 1920 in memory of her husband, Byron Andrews, the income to be used for scholarships "for ambitious and needy students of English, Latin, journalism, history, literature, or political science."	5,194.03
BARTSCH SCHOLARSHIP FUND Created by Dr. Anna Bartsch-Dunne in 1946, the income to be used for a scholarship for a woman in the School of Medicine and an internship for a woman in the University Hospital.	20,033.06
CARR SCHOLARSHIP FUND Created by bequest of Emma K. Carr in 1932, the income to be used for scholarships for young white men.	48,608.91
CARTER, H. H., SCHOLARSHIP FUND Gift of Maria M. Carter in 1896 in memory of her husband, Henry Harding Carter, the income to be used for scholar- ships in civil engineering.	5,000.00
CARTER, M. M., SCHOLARSHIP FUND Gift of Maria M. Carter in 1871, the income to be used for scholarships for young men.	1,000.00



# COLUMBIAN WOMEN SCHOLARSHIP FUNDS

## BROWN SCHOLARSHIP FUND

Created by the Columbian Women's Club of Washington, D. C., in 1925, in memory of Elizabeth V. Brown, the income to be used for scholarships in the School of Education.

1,200.00

## CHAMBERLIN SCHOLARSHIP FUND

Created by the Columbian Women of The George Washington University in 1932 in memory of Grace Ross Chamberlin, the income to be used for scholarships for young women.

2,300.00

## COLLEGE WOMEN'S SCHOLARSHIP FUND

Gift of the College Women's Club of Washington, D. C., in 1926, the income to be used for scholarships.

500.00

## FOUNDERS OF COLUMBIAN WOMEN SCHOLARSHIP FUND

Created by the Columbian Women of The George Washington University in 1920, the income to be used for scholarships for women in Columbian College.

5,000.00

## HERRON SCHOLARSHIP FUND

Created by the Columbian Women of The George Washington University in 1925 in memory of Lillian Young Herron, the income to be used for scholarships for women in Columbian College.

5,000.00

## KNAPP SCHOLARSHIP FUND

Gift of the Columbian Women of The George Washington University in 1915 in memory of Nellie Maynard Knapp, the income to be used for scholarships for women.

5,000.00

## WILSON SCHOLARSHIP FUND

Gift of Elizabeth Wilson in 1926 in memory of her parents, Lewes D. and Myrtie H. Wilson, the income to be used for scholarships in the School of Medicine.

1,000.00

# DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1952

## SCHOLARSHIP FUNDS (Continued)

DAVIS SCHOLARSHIP FUND Gift of Isaac Davis in 1869, the income to be used for scholarships.....	1,000.00
D. C.—D. A. R. SCHOLARSHIP FUND Created in 1952 by the D. C.—D. A. R., the income to be used for scholarships for descendants of patriots of the American Revolution.....	8,224.84
DORSEY SCHOLARSHIP FUND Created in 1947 by Harryman Dorsey in memory of Charles Worthington Dorsey, the income to be used for scholarships.....	7,000.00
FARNHAM SCHOLARSHIP FUND Gift of Mrs. Robert Farnham in 1871, the income to be used for scholarships in Columbian College.....	1,000.00
FISHER SCHOLARSHIP FUND Bequest of Esther Brigham Fisher, received in 1951, the income to be added to principal until principal reaches \$1,000.00, after which the income shall be used for scholarships.....	824.99
HAMPEL SCHOLARSHIP FUND Gift of Evelyn Hampel Young in 1948 in memory of her mother, Anna Spickel Hampel, the income to be used for Scholarships for married women in the School of Education or Columbian College.....	500.00
HARVEY SCHOLARSHIP FUND Bequest of Emma Elizabeth Harvey, received in 1923, in memory of her daughter, Elma Lewis Harvey, the income to be used for scholarships in Columbian College for young women of the Protestant faith and of the Caucasian race..	5,031.97
HAZELTON SCHOLARSHIP FUND Bequest of Lillie S. Hazelton, received in 1950, the income to be used for scholarships.....	5,000.00
KENDALL SCHOLARSHIP FUND Gift of Amos Kendall in 1869, the income to be used for a scholarship now designated by the Board of Trustees as one of the two High School Scholarships assigned to Central High School.....	5,959.61
MOREHOUSE SCHOLARSHIP FUND Created by A. Morehouse in 1861, the income to be used for scholarships for undergraduates intending to enter the Christian ministry.....	1,500.00

<b>PEARSON SCHOLARSHIP FUND</b> Bequest of Paul Pearson, received in 1944, the income to be used for scholarships in the School of Pharmacy.....	2,839.80
<b>POWELL SCHOLARSHIP FUND</b> Created by Levin M. Powell in 1886, the income to be used to train young men for entrance in the United States Naval Academy or to fit them to become mates and masters in the Merchant Marine Service of the United States.....	50,000.00
<b>SHEPARD SCHOLARSHIP FUND</b> Bequest of Lula M. Shepard, received in 1946, the income to be used for scholarships in the School of Government..	10,000.00
<b>SPENCER SCHOLARSHIP FUND</b> Created by Louisa J. Spencer in 1918, the income to be used for scholarships.....	7,434.20
<b>STONE SCHOLARSHIP FUND</b> An anonymous gift in 1893 in memory of Mary Lowell Stone, the income to be used for scholarships for women students of science in Columbian College.....	2,000.00
<b>SWISHER SCHOLARSHIP FUND</b> Created by Dr. Charles Clinton Swisher in 1941, the income to be used to award scholarships in Medieval History..	12,674.09
<b>WALKER SCHOLARSHIP FUND</b> Gift of William Walker in 1824, the income to be used for scholarships for undergraduates intending to enter the Christian ministry.....	2,500.00
<b>WITHERINGTON SCHOLARSHIP FUND</b> Gift of the New York Baptist Theological Seminary in 1830, on behalf of John Witherington, the income to be used for scholarships.....	1,953.13
<b>WOODHULL SCHOLARSHIP FUND</b> Bequest of Ellen M. E. Woodhull, received in 1921, the income to be used for scholarships in Columbian College....	600.00



# DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1952

## PRIZE FUNDS

<b>BURNS MEMORIAL AWARD FUND</b> Gift of Persia Burns in 1937 in memory of her son, Byrne Thurtell Burns, the income to be used for an annual award in chemistry.....	1,000.00
<b>COWLES PRIZE FUND</b> Created in 1943 by John Henry Cowles, the income to be used for annual awards in the School of Government.....	3,000.00
<b>CROISSANT PRIZE AWARD</b> Bequest of DeWitt Clinton Croissant, received in 1941, the income to be used to award an annual prize for excellence in dramatics or dramatic studies.....	1,000.00
<b>CUTTER PRIZE FUND</b> Gift of Marion Kendall Cutter in 1902, in memory of E. K. Cutter, the income to be used for an annual award for excellence in the study of English.....	1,000.00
<b>DAVIS PRIZE FUND</b> Gift of Isaac Davis in 1847, the income to be used for annual awards to members of the senior class who have made the greatest progress in elocution since their connection with the University.....	700.00
<b>ESSARY PRIZE FUND</b> Gift of Helen Essary Murphy in 1948 in memory of her late husband, Jesse Frederick Essary, the income to be used for an annual award in journalism.....	3,000.00
<b>EVANS MEMORIAL AWARD FUND</b> Created in 1937 by friends of Joshua Evans III, the income to be used to establish a prize, as a memorial to an "outstanding life," to be awarded annually "to that man in the graduating class who has demonstrated his signal ability in the social and political sciences and who has given promise of the interpretation of that ability in good citizenship among his fellows".....	1,200.00
<b>FITCH PRIZE FUND</b> Gift of James E. Fitch in 1883 in memory of Willie E. Fitch, the income to be used for an annual award to a senior student for the best general examination in chemistry.....	1,000.00
<b>GODDARD PRIZE FUND</b> Gifts of Mary W. Goddard, Alice Douglas Goddard, and Frederick J. Goddard, in 1923, in memory of Morgan Richardson Goddard, Edward Carrington Goddard, and James Douglas Goddard; added to in 1941 by a gift of Frederick J. Goddard in memory of Alice Douglas Goddard. The income shall be used to award four cash prizes annually to the students making the highest averages in commerce, French language and literature, pharmacy, and American literature, respectively.....	5,519.00

<i>Thomas and Prize Fund</i> Gift of Gertrude M. Hubbard in 1907 in memory of her husband, Cardiner G. Hubbard, the income to be used for an annual award for excellence in American history.	1,000.00
<b>LARNER PRIZE FUND</b> Bequest of John B. Larnier in 1933, the income to be used for an annual award in the Law School.	800.00
<b>ORDRONAUX PRIZE FUND</b> Bequest of John Ordronaux in 1909, the income to be used for annual awards in the Law and Medical schools.	5,000.00
<b>RUGGLES PRIZE FUND</b> Gift of William Ruggles in 1859, the income to be used for an annual award for excellence in mathematics.	500.00
<b>STAUGHTON-ELTON PRIZE FUND</b> Created by gift of Romeo Elton of Exeter, England, in 1860, the income to be used for annual awards for excellence in the Latin and Greek languages, one to be called the Staughton Prize in Latin, the other the Elton Prize in Greek.	500.00
<b>STERRETT PRIZE FUND</b> Gift of the Reverend J. MacBride Sterrett in 1911 in memory of his son, J. MacBride Sterrett, Jr., the income to be used for books to be awarded annually to the student obtaining the highest average in general physics.	300.00
<b>SWISHER PRIZE FUND</b> Gift of Charles Clinton Swisher in 1941, the income to be applied yearly to enlarging the sum set apart for the Historical Prize established in his name by the Historical Club, December 7, 1936.	1,000.00
<b>WALSH PRIZE FUND</b> Gift of Thomas F. Walsh in 1901, the income to be used for an annual award for the best essay on some topic in Irish history.	1,000.00
<b>WEDDELL PRIZE FUND</b> Gift of Virginia Chase Weddell in 1923, the income to be used to award annually the Alexander Wilbourne Weddell Prize to the student submitting the best essay upon the general subject of the promotion of peace among the nations of the world.	5,000.00

#### RESERVES FOR PROTECTION OF INVESTMENTS OF ENDOWMENT FUNDS

<b>RESERVE FOR PROTECTION OF CONSOLIDATED ENDOWMENT FUNDS INVESTMENTS</b> Created from gains arising from the sale of investments, and by setting aside annually a portion of the net income of Consolidated Endowment Funds Investments.	85,559.23
<b>RESERVE FOR PROTECTION OF SCOTTISH RITE ENDOWMENT FUND INVESTMENTS</b> Created from gains arising from the sale of Scottish Rite Investments.	61,859.63

# DESCRIPTION OF PLANT FUNDS

August 31, 1952

## PLANT ADDITIONS

Field House Fund	201.40
Created by the Class of 1946 to assist in building a field house.....	
Law School Expansion Fund	8,685.36
Created in 1945 by various donors, to be used for the acquisition of land and the erection of a building or buildings for the use of the Law School.....	
Library Book Funds—Gifts of Various Donors	
American Diplomatic History Library Fund.....	82.00
Brock, Mabel C., Library Fund.....	1.52
Brooklyn Alumni Club Library Fund.....	405.50
Chase, Ruth Judith.....	50.00
Class of 1945 Library Fund.....	58.75
Council of Religious Organizations Library Fund.....	328.81
Davis, Harry C., Library Fund.....	25.00
Ellison, Newell W., Library Fund.....	25.00
Hellenic Society Library Fund.....	1,000.00
Herbst Library Fund.....	225.00
Hospital Library Fund.....	100.00
Lincoln Arc Welding Foundation Library Fund.....	17.84
Murdock, Mrs. James O., Library Fund.....	7.02
Noyes, Theodore W., Library Fund.....	9.80
Pi Lambda Theta Fraternity Library Fund.....	4,278.52
Rosen Library Fund.....	6.79
	58.23



<b>PAIRO FUND</b>	
Created in 1931 by Richard E. Pairo, by devise and bequest, to be used for athletics.....	113,932.91
<b>SCHOOL OF ENGINEERING BUILDING FUND</b>	
Created in 1946 by Mr. and Mrs. Charles H. Tompkins, to be used toward the erection of a School of Engineering Building.....	298,498.08
<b>SCHOOL OF MEDICINE BUILDING FUND</b>	
Created in 1945 by various donors, to be used toward the erection of a School of Medicine building.....	1,916.34
<b>WOMEN'S ACTIVITIES BUILDING FUND</b>	
Created in 1939 by various donors to erect a women's activities building.....	5,482.75
<b>WOMEN'S BOARD GIFT SHOP EQUIPMENT FUND</b>	
Gift of the Women's Board of The George Washington University to purchase equipment for the Gift Shop.....	79.17

#### RESERVE FOR PROTECTION OF INVESTMENTS OF CONSOLIDATED PLANT FUNDS

Created from the income of Consolidated Plant Funds Investments, and gains arising from the sale of Consolidated Plant Funds Investments.....	6,373.26
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SUMMARIES OF  
DOCTORAL DISSERTATIONS

1951 and 1952





THE  
GEORGE  
WASHINGTON  
UNIVERSITY  
BULLETIN

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SUMMARIES OF  
DOCTORAL DISSERTATIONS

1951 and 1952

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WASHINGTON, D. C.

PUBLISHED IN MCMLIII

BY THE UNIVERSITY

101

論理學

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#### PREFATORY NOTE

This number of the University BULLETIN contains summaries of the dissertations which have been accepted during 1951 and 1952, inclusive, in partial satisfaction of the requirements for the degrees of Doctor of Philosophy, Doctor of Juridical Science, and Doctor of Education at The George Washington University. The original dissertations are filed in the University Library, where they may be consulted by students interested in examining the complete texts.

#### AVAILABILITY OF DISSERTATIONS

Dissertations listed in this and earlier issues may be ordered copied at cost by the non-profit Bibliofilm Service, care U. S. Department of Agriculture Library, Washington 25, D. C., in bibliofilm or photoprint form.



# CONTENTS

## DOCTOR OF PHILOSOPHY

	Page
<b>BENJAMIN WILLIAMS SMITH</b> The Effect of Diet Upon the Concentration of $\alpha$ -Amylase in the Urine and Tissues of Animals (February 22, 1951).....	3
<b>DONALD GIBSON BADGER</b> The Balance of Payments; a Tool of Economic Analysis (May 30, 1951) .....	5
<b>ANNE ROSALEEN BOURKE</b> Studies on the Reversal of Chemically Induced Inhibition of Bacterial Virus Growth (May 30, 1951).....	15
<b>CHARLOTTE MOOAR DAMRON</b> Studies of the Metabolism of Ascorbic Acid, Dehydroascorbic Acid, and Diketogulonic Acid in the Guinea Pig (May 30, 1951) .....	19
<b>WALTER WILLIAM JACOBS</b> Random Matrices (May 30, 1951).....	20
<b>MARGARET GEORGIA KELLY</b> Pharmacological Actions and Physiological Disposition of Podo- phyllotoxin and Picropodophyllin (May 30, 1951) .....	22
<b>ANDREW W. MONLUX</b> The Histopathology of Nephritis of the Dog (May 30, 1951) .....	26
<b>JEAN KELLY NIELSEN</b> The Stability of Dihydrostreptomycin Sulfate (May 30, 1951) .....	33
<b>GEOFFREY DEAN LEROY WOODARD</b> The Toxicity, Mechanism of Action, and Metabolism of Hydro- quinone (May 30, 1951).....	37
<b>RAFAEL A. TORO</b> A study of the Tropical American Black Mildews (November 12, 1951).....	41
<b>EVELYN WINGATE WENNER</b> George Steevens and the Boydell Shakespeare (November 12, 1951) .....	43



WALTER LLOYD NEWTON	
The Influence of Genetic and Other Factors on the Susceptibility of <i>Australorbis glabratus</i> to infection with <i>Schistosoma man-</i> soni (February 22, 1952)	53
ROBERT HARRISON SHAW	
On the Proof of a Theorem of Frobenius Without the Use of Group Characters (February 22, 1952)	56
LEON SWELL	
Studies of Cholesterol Esterase Systems (February 22, 1952)	58
DON CARLOS FAITH	
A System of Qualifications Analysis for the Armed Forces (May 28, 1952)	60
PAUL LOUIS ILLO	
North American Copepods Belong to the Family Notodelphyidae (May 28, 1952)	67
JOHN WALLACE MCCALLEY	
Futures Trading Considered as an Aspect of Monetary Theory (May 28, 1952)	74
THEODORE PETER PERROS	
The Effect of Fluorine on Praseodymium Trifluoride and The Preparation and Properties of Certain Fluoplatinates (May 28, 1952)	85
ARTHUR NARÔLE CARSON	
The Dynamical Evolution of a Star and a Comparative Study of Nucleon and Radiation Temperatures (November 11, 1952)	89
MARLIN ALWINE ESPENSHADE	
Experimental Morphology in <i>Penicillium</i> (November 11, 1952)	94
MICHAEL MITCHELL FRODYMA	
A polarographic Investigation of Some Nitroparaffins (Novem- ber 11, 1952)	97
MARVIN IRVING GOTTLIEB	
A Morphological and Histo-Cytological Study of the Effects of Methylcholanthrene on Normal and Regenerating Limbs of <i>Triturus Viridescens</i> (November 11, 1952)	105
NORMA R. METZNER	
The Influence of Training in Particular College Courses on Verbal and Numerical Aptitudes (November 11, 1952)	107

JOHN PRICE MUNDY

The Investigation of the Background, Functions, and Attitudes  
of Six Groups of Counselors (November 11, 1952) . . . . . 109

DOCTOR OF JURIDICAL SCIENCE

JASPER SILVA COSTA

Rights of Employers in Inventions of their Employees (May 30,  
1951) . . . . . 121

WALTER KIECHEL, JR.

Ascendance of the Federal Corporation (May 28, 1952) . . . . . 128

DOCTOR OF EDUCATION

JOHN CARL LANG

The Nature of the Provisions for the Problems of Beginning  
Male College Students (November 12, 1951) . . . . . 137

LUTHER CECIL McRAE

The Administration of the Professional Undergraduate Program  
of Teacher Education in Virginia (November 12, 1951) . . . . . 146

GROVER LAMARR ANGEL

The Management of Internal School Finance With Reference  
to Extra-curricular Activity Funds (May 28, 1952) . . . . . 159

ESTON KERMIT FEASTER

Inservice Training of Classroom Teachers (November 11, 1952) 166

HOWARD ROBERTSON RICHARDSON

The Role of the High School Principal in Supervision (Novem-  
ber 11, 1952) . . . . . 172





SUMMARIES OF DISSERTATIONS  
SUBMITTED FOR  
THE DEGREE OF DOCTOR OF PHILOSOPHY  
1951 and 1952



## THE EFFECT OF DIET UPON THE CONCENTRATION OF $\alpha$ -AMYLASE IN THE URINE AND TISSUES OF ANIMALS

by BENJAMIN WILLIAMS SMITH •

The enzyme amylase, or diastase, which hydrolyzes starch, glycogen, and some dextrans, has been recognized for more than a century. The enzyme is very widely distributed in both plants and animals. Two forms are recognized,  $\alpha$ -amylase and  $\beta$ -amylase.  $\alpha$ -amylase attacks the polysaccharide molecule at random, hydrolyzing  $\alpha$ -glucosidic linkages and breaking the polysaccharide down to dextrans of relatively low molecular weight, thereby liquefying the starch and destroying its capacity to form color with iodine. An overlapping process is the slow formation of maltose and a little glucose.  $\beta$ -amylase attacks the polysaccharide molecule only at the non-reducing end of the chain, hydrolyzing off maltose units, one at a time. Liquefaction is thus very slow and no glucose is formed. The principal final product of both enzymes is maltose, the  $\alpha$  form in the case of  $\alpha$ -amylase, and the  $\beta$  form in the case of  $\beta$ -amylase. Both enzymes, however, attack only  $\alpha$ -1-4 glucosidic linkages. The present study is limited to only a small section of the entire problem, namely the  $\alpha$ -amylase of the animal body.

In the period of more than a hundred years since amylase was discovered in the animal body much progress has been made in its study. The enzyme has been demonstrated in nearly all tissues and fluids of the body and in all cases found to be the  $\alpha$ -form. It has been crystallized from the pancreas and saliva, and the kinetics of its activity have been thoroughly studied. In spite of this progress the origin of amylase in the blood is still subject to dispute and the function, if any, of the blood and tissue amylases, other than that of the pancreas and salivary glands, is unknown.

Numerous methods have been proposed for the quantitative estimation of amylase. Some have been quite satisfactory for tissues, others for blood or urine, and some, over a period of time, have been found to be unsatisfactory. None have proven to be entirely satisfactory for study of the enzyme in all tissues or fluids of the body.

In the present research an amyloclastic method has been developed for the determination of  $\alpha$ -amylase in whole blood, serum, urine, and tissue. This method is based upon the blue color formed by the reaction of starch with iodine which is measured photometrically before and after incubation of soluble starch with material containing the enzyme. The decrease in blue color obtained after the incubation is a measure of the amylase concentration. The normal human serum amylase under

• B.S. 1940, Virginia Polytechnic Institute; M.S. 1947, The George Washington University; Ph.D. conferred February 22, 1951.



fasting conditions was found to be 62.2 units per 100 cc with a standard deviation of  $\pm 22.9$  units, and in the non-fasted state 74.3 units with a standard deviation of  $\pm 20.6$  units. The urinary amylase excretion of 192 normal human subjects on mixed diets was found to be 3095 units per 24 hours with a standard deviation of  $\pm 1024$  units.

This method has been applied to the study of the effect of diet on the amylase concentration in urine, blood, and certain animal tissues.

The oral administration of 100 grams of glucose to normal fasting human subjects was found to cause a significant decrease in the serum amylase throughout a three hour period. This change was not due to a loss of amylase in the urine since there was no increase in the urinary output of amylase after glucose ingestion. The serum lipase did not show a significant variation in these experiments. The blood sugar values obtained after glucose administration showed that glucose was absorbed at an apparently normal rate. An increased rate of utilization of glucose was therefore present which served as a stimulus to the changes that occurred. The results of these experiments indicate that the amylase of the body tissues may have an important function in carbohydrate metabolism.

Using the urinary amylase concentration obtained on mixed diets as a base level, the following changes were observed in 192 normal human subjects after ingestion of 1 of 6 special diets for a period of 4 days: high carbohydrate and alkaline residue diets resulted in a significant decrease in urinary amylase excretion; high protein diets produced a significant increase in urinary amylase output; fasting resulted in a significant increase in urinary amylase; and no change was observed on high fat and purine diets.

The effect of various diets on the blood, urine, and tissue concentrations of amylase in the rat was determined. No change in blood amylase was noted on any diet. The feeding of diets high in carbohydrate to rats previously adjusted to a high protein diet resulted in a marked decrease in urinary amylase excretion within 4 days which persisted throughout the 20 day period of carbohydrate ingestion; the pancreatic amylase increased rapidly to a peak at 10 days and decreased somewhat over the final 10 day period; the kidney and intestinal amylase increased, then decreased in the same general manner as that of the pancreas; the liver and blood amylase did not follow the pattern of the pancreatic amylase but appeared to be reciprocally related to each other.

These results are interpreted to indicate that the enzyme  $\alpha$ -amylase is in some way related to the metabolism of carbohydrate in the animal body. The mechanism of the changes observed in blood, urine, and tissue concentrations of amylase following the imposition of dietary imbalances cannot be explained on the basis of the data obtained.

## THE BALANCE OF PAYMENTS: A TOOL OF ECONOMIC ANALYSIS

by DONALD GIBSON BADGER •

### BASIC CONCEPTS AND DEFINITIONS

The balance of payments is one of the oldest tools of economic analysis. Its origin can be traced back as far as the earliest period of mercantilist thought in the latter part of the fourteenth century. It was originally a very crude instrument, differing as widely from its modern counterpart as the tools of a medieval craftsman differ from the precision tools of today. Progress in the development of the balance of payments was slow until World War I, but there has been a steady improvement both in methodology and in techniques during the last 30 years, especially during and after World War II. A notable landmark in this development has been the publication by the International Monetary Fund of the *Balance of Payments Manual*<sup>†</sup> and the *Balance of Payments Yearbooks*.<sup>‡</sup>

The balance of payments is a system of accounting in which the accounting entity is a country or region. The transactions it records are not those of a single person or institution, but those of the group of persons and institutions that is considered as being identified with that country or region. The way in which the persons and institutions identified with one country are distinguished from those identified with another country is by means of the concept of "resident". By focusing attention on a person's "center of interest", the Manual has provided a flexible but significant criterion for the identification of a country's residents. In the case of institutions the Manual's decision to treat branches and subsidiaries as residents of the country in which they are located on the ground that they are an integral part of the economy of that country is in harmony with this principle. The distinction between "branch" and "agency" is also significant, but it seems desirable that it should be expressed in economic rather than in legal or accounting terms.

The transactions recorded in the balance of payments are those between residents and foreigners. In the application of this principle the Manual has singled out some borderline cases for special comment. These concern the inclusion of undistributed profits of subsidiaries as well as branches, the concept of an automatic donation when a person migrates, and the decision to adopt uniform f.o.b. valuation for mer-

\* A.B. 1937, University of Adelaide; Ph.D. conferred May 30, 1951.

† International Monetary Fund, *Balance of Payments Manual* (2nd ed.; Washington: IMF, 1950). Hereafter referred to as the Manual.

‡ International Monetary Fund, *Balance of Payments Yearbook 1948, 1946, 1947* (Washington: IMF, 1949) and *Balance of Payments Yearbook 1948 and Preliminary 1949* (Washington: IMF, 1950).



chandise transactions irrespective of the terms of the particular transaction. In each case convincing reasons are given for the procedure adopted. Similarly, adequate justification is given for the deliberate inclusion of transactions between the private and official sectors, i.e., between residents, in the case of transactions in gold and short-term capital.

The account in the Manual of the deficiencies of an exchange record in comparison with a balance of payments is likely to create a misleading impression particularly in the case of merchandise transactions. Customs data are also subject to serious deficiencies and, provided the necessary supplementary data are available, there are strong grounds for preferring exchange control statistics to customs data as a basis for the merchandise item. In view, however, of the fact that the adjustments to the exchange control data are likely to be numerous, it is desirable that the figures used should be reconciled with the customs data.

#### THE RELATIONSHIP OF THE BALANCE OF PAYMENTS TO SOCIAL ACCOUNTING

Parallel with the development in the balance of payments over recent years, there has been similar progress in the study of national income, resulting in its extension into the broader field of social accounting. Although these two concepts are closely related and are both assuming increasing importance in the determination of economic policy, too little attention has so far been paid to the need for consistency in their basic concepts and definitions. The balance of payments is, in fact, from one point of view at least, an integral part of the social accounts. The task of integrating the balance of payments into the social accounts and eliminating the inconsistencies between the two systems is therefore an important one.

This question was by no means ignored in the compilation of the Manual. Provision was made for various adjustments to make the credit entries for goods and services refer only to exports, that is, sales to foreigners, and to make the debit entries refer only to imports, that is, purchases from foreigners. These adjustments include the corrections for changes in stocks and for returned exports and imports. Moreover, the decision to show imports on an f.o.b. rather than a c.i.f. basis was based partly on a desire to avoid the necessity of showing credit entries for freight and insurance on imports carried in domestic vessels and thus overstating the credit and debit totals. In spite of the care taken in applying this principle, there are a number of items in which changes are needed. The question as to whether entrepôt trade should be recorded on a gross or a net basis is open to argument. It seems desirable that the net basis should be used since the goods do not enter the domestic economy, but this treatment involves a number of theoretic-



cal difficulties. In the case of insurance, the inclusion of premiums and claims on a gross basis clearly involves overstatement of the credit and debit totals. This overstatement may be avoided by regarding claims as negative premiums. Correct timing also involves making allowance for premiums received on account of unexpired risks and for claims due but not yet paid. Further changes are desirable in the case of pensions and tax payments which, to be consistent with social accounting, should be treated as donations rather than services.

In the past there has been considerable confusion in social accounting between the concept of "production" and the concept of "income". This confusion can be avoided by defining the concept of "production" in terms of the place where it occurs and the concept of "income" in terms of the person to whom it accrues. This involves the definition of "national product" in terms of the production occurring within the "domestic territory" of the country, and the definition of "national income" in terms of the income accruing to the "residents" of the country. Copeland's suggestion that a distinction should be drawn in the balance of payments between flows of distributive shares and flows of goods and services is a corollary of this proposal since flows of distributive shares are related to the concept of income, while flows of goods and services are related to the concept of production. In addition to investment income, the former category would include such items as workers' earnings, charter hire, royalties, etc., where the income accrues to residents of countries other than the country where the production occurs. Another result of the proposal is that it is not only necessary to have consistency in the definition of "resident" but also in the definition of "domestic territory". There is a particular need for clarification of these concepts in relation to the treatment of international carriers and employees of international agencies.

The separation of "product" aggregates from "income" aggregates involves the recognition of two distinct concepts of national expenditure, one related to the disposition of the national product and the other to the expenditures of the national income. Analysis of the disposition of the national product would be facilitated by the adoption of a new concept which may be described as "gross national turnover". In addition to gross national product, this concept would include imports entering the domestic economy and also disinvestment and negative consumption to the extent necessary to show the disposition of the available flow of goods and services in accordance with appropriate broad categories.

#### THE FINANCING OF INTERNATIONAL TRANSACTIONS

Since the balance of payments is a double-entry system of accounting in which every credit is offset by a corresponding debit of equal magni-

tude, it is obvious that the statement as a whole must balance. This formal balance, however, has no economic significance. Various attempts have been made to distinguish between those elements in the balance of payments which are part of the market supply and demand for foreign exchange and those which merely fill a gap between supply and demand. Whenever market supply exceeds market demand there is said to be a surplus and whenever market demand exceeds market supply there is said to be a deficit. Some early mercantilist writers confined their attention to the balance of "visible" trade but the significance of "invisible" items was soon recognized. The balance on current account thus emerged as a measure of surplus or deficit in the balance of payments. By ignoring the possibility of capital movements, they identified the balance on current account with movements of specie. From their point of view, therefore, it was a matter of indifference whether the surplus or deficit was measured by the balance on current account or by gold flows. When the place of international capital movements was recognized, a distinction was drawn between "autonomous" and "induced" or "equilibrating" capital movements. Equilibrating capital movements were conceived of as including movements in the foreign exchange holdings of the monetary authorities and commercial banks together with private short-term capital movements induced by changes in interest rates. The concept of surplus or deficit was then defined in terms of gold flows plus equilibrating capital movements.

With the abandonment of the classical gold standard and the virtual disappearance of "equilibrating" private capital movements, attention was focused on the *official* financing associated with movements in international reserves. New types of official financing emerged with the widespread negotiation of payments and clearing agreements, intergovernmental loans and grants such as the Anglo-American Loan, Export-Import Bank loans, and ERP aid, and financing through international agencies such as UNRRA, the IMF, and the IBRD. In an attempt to apply the concept of surplus and deficit in this situation, the staff of the International Monetary Fund has developed a new concept, "compensatory official financing", which is defined as "the financing undertaken by the monetary authorities to provide exchange to cover a surplus or deficit in the rest of the balance of payments". A distinction is drawn between official financing of this kind and "special official financing" which refers to official transactions undertaken independently of the status of the balance of payments. The latter category includes such items as amortization and other contractual repayments, reparations payments, and the financing of specific projects.

The concept of compensatory official financing has been criticized by



Fritz Machlup\* and these criticisms raise some extremely difficult theoretical problems. The most serious of these problems is that the supply and demand for foreign exchange are not truly independent and that they are affected by government decisions which, in turn, are influenced by the over-all balance of payments position. This results in a blurring of the distinction between compensatory and special official financing. Thus even though a loan may be related to a specific project, the decision to undertake it may have been based on a desire to relieve pressure on the balance of payments as a whole rather than on the desirability of the project *per se*. In all cases involving interdependence of this kind, care should be taken to state clearly the underlying conditions implied by the classification which has been adopted.

#### PROBLEMS OF REGIONAL CLASSIFICATION

The use of the balance of payments as a tool of economic analysis under present world conditions requires that it supply information regarding a country's transactions with particular countries or regions and in particular currencies as well as its transactions with the rest of the world as a whole. There are a number of important theoretical problems involved in such a classification. In the first place it is necessary to reconcile the social accounting and the financing points of view. This problem arises in making a choice between a geographic and a currency classification.

From the social accounting point of view, a geographic classification is obviously of much more significance than a currency classification. In discussing the relationship of the balance of payments to social accounting, emphasis has been placed on the desirability of defining the category of goods and services on a strictly territorial basis. It has been suggested that exports of goods and services should be confined to goods sold and services rendered to foreigners out of the gross national turnover of the country concerned and that imports should be confined to goods sold and services rendered to residents out of the gross national turnover of foreign countries. The logical extension of this principle is to subdivide exports and imports on a similar territorial basis. In this way the balance of payments, when classified geographically, becomes the connecting link between the social accounting systems of the various countries.

When attention is turned to the financing aspect, the currency classification assumes greater significance. Under present conditions of inconvertible currencies, and of exchange arrangements which discriminate between "hard" and "soft" currencies, it is necessary to know the

\* Fritz Machlup, "Three Concepts of the Balance of Payments and the So-Called Dollar Shortage", *Economic Journal*, LX (March, 1950), 46-68.



strength or weakness of a country's balance of payments in relation to each of the currencies in which its transactions are financed. While the currency classification assumes more significance from this point of view, the geographic classification cannot be ignored. In studying a country's financing problems, it is necessary not only to have a currency classification of its balance of payments but also a geographic classification to throw light on the underlying economic relations with particular countries or areas which have contributed to the development of the financing problems.

Faced with the necessity of choosing between a standard form based primarily on a geographic classification and one based primarily on a currency classification, the Fund showed sound judgment in choosing a classification of the former type. The currency classification is of most relevance to short-term capital movements, and this significance has been recognized by the instructions in the Manual requiring short-term capital movements to be classified on a creditor-debtor (i.e., currency) rather than on a transferor-transferee basis. Provision is then made to bridge the gap between the geographic and the currency classifications by the introduction of an item for multilateral settlements, that is, settlements of transactions between two countries in the currency of a third.

A further difference between the social accounting and the financing points of view concerns the type of geographic classification to be used. From the social accounting point of view, it is desirable that transactions in goods and services should be classified on an origin-destination basis but, from the financing point of view, it is necessary to show them on a gross purchase-sale basis. The difficulty has been met in part in the Manual by requiring that trade statistics be classified first on the basis of origin and destination and then converted to a purchase-sale basis by means of an adjustment item. In the case of merchandise transactions abroad and other service transactions, however, only the purchase-sale basis is used. It is desirable that the principle applied to trade statistics should be extended to the entire goods and services account and that each item should be classified on an origin-destination basis. The regional totals could then be converted to a gross purchase-sale basis by means of an adjustment item. This would involve recording entrepot trade on a net basis rather than on a gross basis as prescribed in the Manual.

The next question to be decided is whether compensatory official financing should be measured on a regional or on a currency basis. The answer to this question depends upon the nature of the situation confronting the monetary authorities of the country concerned. When all currencies are convertible and the actual currency in which settlement

is made is a matter of indifference, no particular significance attaches to any subdivision of compensatory official financing. If any subdivision is to be made at all, it might as well be done on a regional basis. This involves classifying all multilateral settlements and movements in reserves as compensatory. When the currency in which settlement is made is not a matter of indifference, compensatory official financing should be measured on a currency basis. Multilateral settlements should then be treated as noncompensatory transactions. Shifts in reserves for other than compensatory purposes (e.g., speculative movements) should also be treated as noncompensatory. Under these circumstances, gold reserves may be regarded for practical purposes as being on a par with the reserves of the hardest currency. An even better solution would be to regard gold as a separate currency and to allocate gold transactions to a separate column.

Another problem raised by the differing significance of social accounting and financing considerations is the method of treating currency areas. Obviously, from a social accounting point of view, it is desirable to compile a balance of payments for each country or group of countries within the currency area which it is desired to treat as an accounting entity. From a financing point of view, however, when the central authorities of a currency area undertake all the compensatory financing for the area with the rest of the world, and when either a single currency is used both internally and externally or separate internal currencies are tied directly and automatically to the principal currency, the concept of compensatory official financing as a guide to exchange problems is relevant only for the area as a whole. The problem can be met by showing first the noncompensatory transactions of the metropolitan area and then the noncompensatory transactions of the rest of the currency area. Compensatory official financing could then be shown for the area as a whole.

When the monetary authorities of different parts of the currency area have a certain amount of independence and undertake compensatory financing on their own account, neither the balance of payments of the central area alone nor that of the whole currency area tells the full story. Both statements are needed to indicate the problems confronting the monetary authorities of the central area. In the special case of the sterling area, the transactions of the dependent overseas territories should be distinguished from those of the independent sterling area countries. The colonial currencies are linked directly and automatically to sterling and the movements in their sterling balances cannot therefore be regarded as indicating pressure on sterling. The monetary authorities of the independent sterling area countries, however, undertake compensatory financing on their own responsibility and the movements in their sterling balances are therefore compensatory. The bal-



ance of payments of the sterling area as a whole should show compensatory financing by the independent sterling area countries separate from that undertaken by the British authorities.

#### EQUILIBRIUM IN THE BALANCE OF PAYMENTS

Up to this point in the discussion, consideration of the financing of international transactions, from both the global and the regional points of view, has been confined to the short-period aspect. Attention has been focused on the conditions in the foreign exchange market during the period under review. An attempt has been made to define the concept of surplus or deficit in such a way that it represents the gap between market supply and market demand. This is essentially a short-run concept since transitory items of demand and supply carry as much weight in the market as the more stable and recurrent items. The absence of a deficit in the balance of payments is evidence of equilibrium only in this transitory sense. In order to determine whether the balance of payments is in equilibrium in a more fundamental sense, it is necessary to pay attention to the long-run elements in the situation.

Discussion of the concept of equilibrium in the balance of payments has generally been associated in recent economic literature with attempts to define the opposite concept of "fundamental disequilibrium". A review of this literature shows that a number of the differences of opinion on this subject are more apparent than real. To a large extent they appear to have arisen more from differences of opinion regarding the appropriate corrective policy than from differences in the diagnosis of disequilibrium. While there is a significant difference in emphasis between Triffin and Haberler, in actual practice their conclusions as to whether or not fundamental disequilibrium exists are not likely to diverge greatly except in the event of a serious and prolonged depression. Hansen gives a more limited definition than the other writers, but this is clearly due to his desire to identify fundamental disequilibrium with a situation arising from an inappropriate exchange rate. A more reasonable procedure would be to define fundamental disequilibrium in broader terms and to consider the question of the appropriate corrective policy separately.

The most unsatisfactory aspect of the recent discussion of fundamental disequilibrium is the failure to deal convincingly with the question as to what constitutes a serious and persistent deficit in the balance of payments. It is, therefore, desirable to relate the concept of compensatory official financing to this problem. An attempt should first be made to segregate the recurrent and non-recurrent components in the current balance of payments situation. Nurkse has taken a step in this direction by suggesting that disequilibrating short-term capital movements should



be excluded from the balance along with transfers of gold or foreign exchange reserves and equilibrating capital movements. Kahn has taken a further step by suggesting that only "acceptable" borrowing should be included.\* While it is probably true that abnormal capital movements are more important than other non-recurrent items, it is desirable that the need to eliminate any other non-recurrent items be recognized.

The next task is to examine the underlying conditions under which these results were achieved, paying particular attention to such questions as the levels of employment at home and abroad; the levels of saving, investment, prices, and costs; the existence of exchange controls and similar restrictions; the nature of fiscal and credit policies, etc. If the full effect of these conditions is not reflected in the current balance of payments or has not been allowed for in eliminating the non-recurrent items, allowance must be made for changes in the recurrent market balance that may be expected to result. Moreover, since the underlying conditions are not static and equilibrium must be envisaged in terms of a certain future period, it is also necessary to allow for trends that may be expected over that period. Among others, these should include trends in population, standards of living, technology, and the terms of trade. Allowance must also be made for the extent to which the existing underlying conditions are not considered consistent with long-run equilibrium. This point introduces a certain amount of indeterminacy into the concept, since it then becomes dependent on the assumptions made regarding the appropriate underlying conditions. Further complications are introduced by the existence of "hard" and "soft" currencies and by the linking of different economies in currency areas. When the appropriate underlying conditions have been determined and allowance has been made for all the above factors, the balance of payments would be considered in fundamental disequilibrium if the maintenance of the present rate of exchange would result in a serious and persistent deficit in the estimated recurrent market balance over the appropriate period, either for all currencies or for a particular group of "hard" currencies.

The concept of equilibrium in the balance of payments must be considered not only from the point of view of an individual country or currency area but also from the point of view of the world as a whole. Equilibrium in the world balance of payments situation requires not only that each country taken in isolation be in equilibrium but also that these individual equilibria be mutually consistent.

\* R. F. Kahn, "The Dollar Shortage and Devaluation", *Economia Internazionale*, III (February, 1950), 90. He defines "acceptable" borrowing as borrowing "which is normal in the sense that it can be expected to continue for a considerable time and that it is matched by investment in the borrowing country which directly or indirectly provides for interest payments".

## CONCLUSION

This study has been devoted to the task of making the balance of payments a more effective tool of economic analysis. In accordance with this purpose, it has been felt desirable to concentrate on the task of making the balance of payments present facts in the most enlightening way. This task must be distinguished clearly from that of determining the appropriateness of the alternative corrective measures which might be taken in the light of these facts. It is beyond the scope of this study to deal with these policy questions. It is desirable, however, to indicate the way in which the balance of payments may be used in assessing the probable effectiveness of a contemplated corrective measure. By incorporating the proposed measure in the underlying conditions on which the forecast of the recurrent market balance has been based, it is necessary to estimate whether the measure will produce sufficient change in the deficit to eliminate the fundamental disequilibrium. It is unfortunately extremely difficult to obtain a great deal of the economic data needed to make this type of estimate. In diagnosing fundamental disequilibrium, it is necessary only to consider the size of the gap between supply and demand. In considering the appropriateness of different corrective policies, however, information is required about the elasticities of the supply and demand curves and the extent to which these curves would be shifted by particular changes in the underlying conditions. One of Machlup's criticisms of an *ex post* concept of surplus or deficit was that it does not give reliable information of this kind. This is not a valid criticism of the concept itself, it is merely a warning against attempts to use the concept for purposes for which it is not intended. All that can be claimed for the concept of surplus or deficit that has been elaborated here is that it provides a measure of the gap between supply and demand under the conditions that prevailed during the period under review. It is the task of the balance of payments to throw as much light as possible on the factors which have contributed to this situation. To pass from this point to the diagnosis of fundamental disequilibrium requires detailed analysis of many other series of economic data. Even when this point has been reached, the hardest task of all remains—that of determining the most appropriate corrective measure. The balance of payments can play a part, but a rather limited part, in this task.

The balance of payments has proved itself a useful tool of analysis, and it will become more useful as its methodology and techniques are improved. It has not replaced, and can never be expected to replace, the need for detailed analysis in other parts of the economy. Judgments on economic policy need to be based on a comprehensive view of the entire economic situation.



## STUDIES ON THE REVERSAL OF CHEMICALLY INDUCED INHIBITION OF BACTERIAL VIRUS GROWTH

by ANNE ROSALEEN BOURKE •

A number of chemical compounds were previously tested for ability to inhibit T2r<sup>+</sup> bacteriophage as judged by prevention of lysis of the host organism, *Escherichia coli* B. The system in which lysis inhibition was obtained was one which offered minimal requirements for bacterial multiplication. Synthesis of all metabolites was from simple sources of nitrogen and carbon and essential salts. Drugs, prepared in the synthetic nutrient medium, were tested in concentrations which permitted bacterial growth.

A total of 180 compounds was tested for lysis inhibition, 27 of which inhibited lysis partially or completely. Attempts were made to determine, where possible, at what stage of host infection or by what metabolic pathways the virus activity was inhibited by these drugs. Elucidation of the modes of action of each of 23 inhibiting compounds has been attempted.

Modes of action considered as possibilities in prevention of lysis of the bacterial host by its virus parasite were: (1) direct *in vitro* inactivation of virus particles by the drug, (2) prevention of adsorption of virus to the host, (3) rendering the host physiologically unsuitable for virus multiplication, (4) inhibition of metabolic or synthetic processes of the host which are directed toward virus synthesis but which are not essential for host multiplication, or (5) prevention of rupture of the host cell with simultaneous release of newly formed virus particles.

In undertaking this study, the interest was centered upon determination of a point at which host cell synthesis and virus synthesis differed. It was realized that such a difference might be only a quantitative one. Such a point of difference between one host cell and its virus parasite might yield insight into fundamental metabolic processes of the virus-host interrelationship. It is not suggested that relationships existing in one host-virus complex are true for others, even closely related viruses, but that processes involved in one such complex may offer suggestions for study of other complexes and the fundamental metabolic cell-virus interactions in general. Since, from a chemotherapeutic standpoint, differences between host cell and virus in metabolism are of importance, the emphasis of the study of these lysis inhibiting drugs has been largely directed toward elucidation of metabolic processes inhibited by the drugs. It is postulated that, if a naturally occurring substance is able to overcome inhibition by one of these drugs, then the drug

• B.S. 1937, University of Maryland; M.S. 1949, The George Washington University; Ph.D. conferred May 30, 1951.



probably exerts its inhibiting influence by interference with the functioning of that compound, one closely related to it, or one preceding it in the synthetic process.

Twenty-eight naturally occurring compounds were used in attempts to protect against the inhibition of virus activity produced by many of these drugs. The same naturally occurring compounds were tested for their ability to prevent bacteriostatic effect of relatively high concentrations of the same drugs. Tests were made to rule out, where possible, inhibitory effect of drugs by means of direct *in vitro* inactivation of virus particles, prevention of rupture of the infected cell, mutation of the host cell to virus resistance under influence of the drug, or alteration of virus produced in the presence of low concentrations of the drug to a form no longer active upon the specific host.

Several drugs were found to prevent lysis by means other than metabolic interference. Apple and citrus pectins and soluble starch were not viricidal *in vitro*, were not bacteriostatic in lysis inhibiting ranges, did not produce bacterial mutations, and permitted formation of viable virus particles. It is felt that these polysaccharides function as lysis inhibitors by preventing rupture of the bacterial wall and that starch may provide a source of energy to the organism which results in the presence in the culture of cells which are physiologically unsuitable to support virus growth at the time of infection. Cyclohexane caproic acid appears to be effective by virtue of an oily coating on bacterial cells when the drug is used in concentrations which inhibit lysis. Inhibition by these compounds was not reversed by naturally occurring substances.

Other substances whose inhibitory action was not reversed by addition of metabolites to the system were Janus green, propamidine, 6-methoxy-8-N-piperidylaminoquinoline, and mercurochrome. Janus green was destructive to some virus particles *in vitro*. Inactivated particles did not recover viability upon removal of the drug but viable particles remaining were fully able to function when the drug was removed by dialysis. Folic acid, which prevented bacteriostatic activity of Janus green, did not prevent lysis inhibition of virus-infected cells. Mercurochrome produced bacteriostasis by virtue of interference with sulfhydryl groups in the host cell; however, this did not appear to be the mode of action in preventing bacteriophage activity. No specific damage could be attributed to propamidine of either host cell or virus particle. However, the range of concentrations between amount of drug producing lysis inhibition and amount preventing bacterial growth was narrow. No distinction between the two effects could be established.

Virtually complete *in vitro* inactivation of virus particles by proflavine and acriflavine in the absence of protective metabolites was apparent.

This inactivation was permanent if exposure to drug was prolonged, since removal of the drug by dialysis did not restore activity.

Virus yield was estimated in the presence of dilute solutions of each of nine of the lysis inhibitors. All markedly reduced the yield as compared with production of virus particles by bacteria in drug-free medium. This is interpreted to indicate reduced ability of the organism to synthesize virus constituents when traces of these drugs are in the environment. These drugs were o-chlorobenzaldehyde, o-carboxymethylmercaptobenzoic acid, o-nitrobenzoic acid, phthalic acid, picramic acid, cyclohexane caproic acid, x,y,z, trichloro-6-methoxy-8-aminoquinoline, 6-methoxy-8-N-piperidylaminoquinoline, and 3,3-cyclohexylpropyl-2,4-quinolinediol. It is possible that other lysis inhibiting drugs might show a similar decrease in virus yield when the host cell is infected in the presence of very low concentrations of each drug.

From an inspection of results obtained by reversal of lysis inhibition by naturally occurring compounds, two primary metabolic pictures emerge which may be involved in synthesis of virus substances and may have been the ones inhibited by lysis-preventing drugs. It is suggested that drugs shown to inhibit lysis of bacteria by bacteriophage may do so through interference with synthesis of tryptophane or through interference with the functioning of riboflavin or niacin. It is also suggested that such processes are required in greater abundance for virus synthesis than for metabolism of uninfected cells.

Substances whose ability to prevent lysis can be overcome by addition of tryptophane to the environment are picramic acid, para-chlorophenyl-N-N-dibutylamidine, phthalic acid, isonicotinic acid, o-nitrobenzoic acid, o-carboxymethylmercaptobenzoic acid, x,y,z, trichloro-6-methoxy-8-aminoquinoline, 9-(4-diethylamino-2-piperidylamino)-2,3-dimethoxy-6-nitroacridine, and quinacrine. Tyrosine was only slightly less effective than tryptophane in accomplishing the same reversals.

Compounds whose lysis inhibition ability was antagonized by riboflavin and usually by niacin were in many cases subject to reversal by thiamin also. They are acriflavine, proflavine, quinacrine, the 6-nitroacridine, x,y,z, trichloro-6-methoxy-8-aminoquinoline, 3,3-cyclohexylpropyl-2,4-quinolinediol, and isonicotinic acid. Inhibitions by 1-nitroguanidine and para-chloro-phenyldibutylamidine were reversed by riboflavin but not by niacin or thiamin.

The inhibitory effect of quinacrine was shown to be antagonized in a competitive manner by riboflavin and niacin but in a non-competitive manner by thiamin.

Other substances which appeared relatively frequently as antagonists of drugs shown to inhibit bacterial virus activity were adenosine, adenylic acid, hexose diphosphate, and glucose-1-phosphate. These were most

frequently encountered in antagonism of inhibition produced by acridines and quinolines. Inositol, choline, and cysteine and antagonisms are not correlated with any particular group of inhibitors.

There is slight but inconclusive evidence that inhibitors of bacteriophage activity may be antagonized by naturally occurring substances which have a structural similarity to a portion of the molecule of the inhibitor.



# STUDIES OF THE METABOLISM OF ASCORBIC ACID, DEHYDROASCORBIC ACID, AND DIKETOGULONIC ACID IN THE GUINEA PIG

by CHARLOTTE MOOAR DAMRON\*

Tissue levels of ascorbic acid and two of its oxidation products, dehydroascorbic acid and diketogulonic acid, have been studied in guinea pigs before and after administration of these compounds. Full-grown guinea pigs were used for the investigation of changes in the amount of each compound in the individual tissues, which included blood, liver, kidney, muscle, adrenals, spleen, brain, and gastrointestinal tract. Comparisons were made of the tissue levels in control animals and in experimental animals receiving one of the test substances. Experiments were also carried out in which tissue samples were taken from the same animal before and after the administration of the test substances, thus permitting the animals to serve as their own controls. Results by each method of study were in close agreement.

Weanling guinea pigs were employed in over-all studies of recoveries of the three compounds. Data were thus obtained upon the metabolism of the three compounds in the whole animal.

Results of these experiments show that ascorbic acid is more stable than either of the other two compounds when introduced into the guinea pig. Almost two-thirds of the dose given can be recovered unchanged after one hour. Dehydroascorbic acid, however, is rapidly converted to both ascorbic acid and diketogulonic acid, while diketogulonic acid is almost wholly excreted or destroyed within one hour after its injection.

The amount of dehydroascorbic acid which the guinea pig can reduce to ascorbic acid in one hour was found to be an average of 38 per cent of the dose administered, when this dose was 5 milligrams per 100 grams of body weight. *In vitro* studies showed that tissues capable of reducing dehydroascorbic acid include whole blood, liver, and kidneys, but not plasma, muscle, lungs, or the adrenals.

Oxalic acid was regularly found to increase in the urine over a 24-hour period after the injection of ascorbic acid. However, the amount of oxalate excreted could account for the degradation of only 6 to 12 per cent of the administered ascorbic acid.

Evidence presented in this dissertation indicates strongly that most of the ascorbic acid given is metabolized by a pathway which does not involve its conversion to diketogulonic acid.

\* A.B., 1940, Wellesley College; M.S., 1942, Rutgers University; Ph.D., conferred May 30, 1951.

## RANDOM MATRICES

by WALTER WILLIAM JACOBS\*

This paper deals with the general topic of matrices whose elements are random variables; in other words, it is concerned with the probability theory of matrix operations.

Incidental contributions to the topic have been made in connection with problems in mathematical statistics, particularly in multivariate analysis. The names of R. A. Fisher, H. Hotelling, P. L. Hsu, S. S. Wilks, and J. Wishart are prominent among those who have emphasized matrix concepts in their work in this field.

The developments in mathematical statistics which were of greatest significance for the probability theory of matrix operations, were the derivations of the distributions of, first, the sample variances and covariances by Wishart, and second, the sample canonical correlations by R. A. Fisher. These correspond to the problems of determining the distributions, in the first case, of a random matrix multiplied by its transpose, and in the second case, of the characteristic roots of a random matrix.

A general theory of random matrices would have useful applications to other fields. The testing of hypotheses bound up with the rank of a parameter matrix arises in certain problems in econometrics and psychometrics. The probability theory of characteristic roots, and of characteristic roots of the second kind, has applications in the theory of numerical computations with matrices. (The characteristic roots of the second kind of  $X$  are the positive square roots of the characteristic roots of  $X'X$ .)

As early steps in a general theory of random matrices a number of problems are studied. These include the distribution of the characteristic roots of a symmetric matrix, of the characteristic roots of the second kind in the non-symmetric case, and of the elements of the inverse of a random matrix.

To obtain the distribution of the characteristic roots of a symmetric matrix, use is made of the transformation

$$(1) \quad X = PD\lambda P'$$

where  $D\lambda = \text{diag}(\lambda_1, \lambda_2, \dots, \lambda_n)$ , the  $\lambda_i$  being the characteristic roots of  $X$ , and  $P$  is orthogonal. Representing  $P$  by some appropriate set of  $n(n-1)/2$  parameters  $u_\alpha$ , the Jacobian of the transformation from the  $x_{ij}$  to the  $\lambda_i$  and  $u_\alpha$  is found to be

$$(2) \quad J = \Delta(\lambda) \cdot |s|$$

where  $\Delta(\lambda)$  is the alternant of the  $\lambda_i$ , and  $|s|$  is a certain determinant

\* B.S., 1934, College of the City of New York; A.M., 1940, The George Washington University; Ph.D. conferred May 30, 1951.

whose elements are functions of  $u_\alpha$  alone. Substituting from (1) in  $D(X)$ , the probability density function for the  $x_{ij}$ , then multiplying by the absolute value of  $J$  and integrating out the  $u_\alpha$  yields the probability density of the  $\lambda_i$ . In particular, when  $D(X)$  is a function of the  $\lambda_i$  alone, the exact form of the distribution of the  $\lambda_i$  is given.

When  $X$  is non-symmetric, the characteristic roots of  $X$  are in general complex; the proper analogue to the preceding result employs the characteristic roots of the second kind. Here the transformation corresponding to (1) is

$$(3) \quad X = PD\xi Q'$$

where the  $\xi_i$  are the characteristic roots of the second kind, and  $P$  and  $Q$  are both orthogonal.  $P$  as before is represented by parameters  $u_\alpha$ , and  $Q$  by  $v_\alpha$ . The Jacobian in this case turns out to be

$$(4) \quad J = \Delta(\xi^2) \cdot |s| \cdot |t|$$

with  $|s|$  as above and  $|t|$  the determinant whose elements are the same functions of  $v_\alpha$ . Corresponding to the symmetric case, when  $D(X)$  is a function of the  $\xi_i$  alone, the exact form of the distribution of the  $\xi_i$  is specified.

For the transformation from the elements of a non-singular matrix to the elements of the inverse, the Jacobian has simple forms in both the symmetric and non-symmetric case, and the forms of the distribution of  $D(X^{-1})$  are obtained for the two cases.

Some applications of these results are briefly considered.



## PHARMACOLOGICAL ACTIONS AND PHYSIOLOGICAL DISPOSITION OF PODOPHYLLOTOXIN AND PICROPODOPHYLLIN

by MARGARET GEORGIA KELLY •

Our interest in podophyllin and related compounds was stimulated in 1947 by reports that podophyllin and podophyllotoxin, a crystalline isolation product of podophyllin, produced severe damage to tumor tissue and comparatively little damage to normal tissue. Picropodophyllin, a derivative and an isomer of podophyllotoxin, was reported to cause relatively little cytological damage to tumor cells. As no other instance was known in which only one of a pair of isomers produced severe injury to tumor tissue, a study of the pharmacology of podophyllotoxin and picropodophyllin was undertaken in the hope that any essential pharmacologic differences could be correlated with the mechanism of tumor-damaging action.

Podophyllin, from which podophyllotoxin is isolated, is a crude resin obtained from the roots and rhizome of the indigenous, North American, herbaceous perennial, *Podophyllum peltatum* Linnaeus (common names: May apple; mandrake; Indian apple). The medicinal properties of the roots were known to the American Indians, who used the plant both as a medicinal (chiefly as a cathartic and vermifuge) and as a poison. The early Colonists learned of the medicinal properties of the root from the Indians, and stories of the "new American drug" had spread to Europe by the middle of the nineteenth century. In 1881, Podwyssotski fractionated the crude resin, podophyllin; he obtained, among other products, podophyllotoxin and picropodophyllin, and recognized podophyllotoxin as a physiologically active compound. Although studies have been made in the past of the pharmacology of podophyllotoxin or of picropodophyllin, no extensive investigations have been reported in which the pharmacological actions of the two drugs were compared, and the investigations have been limited chiefly to the effects produced on the gastrointestinal tract.

Until the report of Kaplan in 1942 that the topical application of podophyllin in oil cured genital warts, the cytologic actions of podophyllin or its isolation products were unknown, or at least unrecorded. A few years later some interest was aroused in the possible action of podophyllin on tumor tissue by the report of King and Sullivan (1946) that topical application of podophyllin produced colchicine-like alterations in the normal epithelium.

The acute toxicity in mice of podophyllotoxin and of picropodophyllin was determined. With all the routes tested, podophyllotoxin was

• B.S. 1941, M.S. 1945, The George Washington University; Ph.D. conferred May 30, 1951

approximately ten times more toxic than picropodophyllin. In comparing the pharmacological properties of these compounds, therefore, it was assumed that such actions might be related to the relative toxicities, and the drugs were given at levels roughly proportional to the ratio of the median lethal doses.

A histological study was made in mice bearing implants of Sarcoma 37 of the effects of a large, single, intraperitoneal injection of podophyllotoxin or picropodophyllin. No tissue damage was produced in a ten day observation period except to duodenum, tumor tissue, and adrenal glands, and in these instances repair was well underway in 48 hours. Chronic toxicity studies, however, revealed considerable damage to several tissues from daily injections (oral and intraperitoneal) of low doses of the drugs. The liver showed fatty infiltration, foci of necrosis, scar tissue, giant cells, and hyperchromaticity. There was mitotic arrest in the spleen, bizaare nuclei, and necrosis of the germinal centers. The testes showed some necrosis with swelling of the epididymis and vas deferens. The kidneys had plugged non-functioning tubular and glomerular overgrowth, necrosis and hemorrhage. The duodenum showed evidence of sloughing and necrosis. The adrenal glands were depleted of osmiophilic granules and filled with osmiophilic dust. There was no significant qualitative difference between the damage observed in the podophyllotoxin animals and in those treated with picropodophyllin, although the damage was usually a little less severe in the picropodophyllin group. The drugs were given as suspensions in aqueous methylcellulose solution. Control animals, injected with methylcellulose solution, also showed damage to the spleen, kidney, testis, intestine, and adrenal glands, although the animals appeared healthy. The degree of damage was never comparable to that observed in the animals treated with the drugs, and it often differed in character. Unless the histological picture in a group treated with podophyllotoxin or picropodophyllin showed a considerably increased amount of damage or a different type of response to that found in the control group, no effect was ascribed to the drugs.

Comparative studies were made of the effects of the drugs on respiration, the cardiovascular system, the smooth muscle, blood coagulation, and the hematopoietic system. Dogs, cats, rabbits, rats, mice, and isolated preparations of turtle heart and of rabbit intestine were used in making these investigations. No appreciable differences were revealed in the pharmacological actions of podophyllotoxin and picropodophyllin. Both drugs depressed the respiration and appeared to kill by respiratory paralysis. Neither drug provoked any consistent, marked, or irreversible change in blood pressure, smooth muscle, or blood coagulation when given as a single, intraperitoneal, or intravenous injection



of a non-lethal dose; the only effects which were consistently produced with moderate dosage were damage to tumor tissue, depletion of the osmiophilic granules of the adrenal cortex, and a moderate leucopenia and eosinopenia. At lethal doses, there was a drop in blood pressure which appeared to be secondary to a failing respiration, and there were alterations in the irritability and rhythmic pattern of the smooth muscle of the intestine.

Studies were made of the peripheral blood response in rats to a single intraperitoneal injection of podophyllotoxin or picropodophyllin. With low doses, a leukopenia lymphopenia, and an eosinopenia developed within one hour; this was followed by a leukocytosis, a lymphocytosis, and a polymorphonuclear leukocytosis within the following 24 to 72 hours. With high but non-lethal doses of podophyllotoxin the depression of the leukocytes was more pronounced and persisted throughout a 72 hour observation period. These changes in the blood picture, taken together with the histologic damage to the adrenal cortex which was a constant finding with low or high doses of the drugs, suggested the possibility that podophyllotoxin and picropodophyllin mediated their effects through the adrenal glands. To evaluate the contribution of the adrenal glands to the response in rats to podophyllotoxin and picropodophyllin, blood studies were made on adrenalectomized rats. These animals in which the mechanism of adrenal stress was impossible, responded to injections of podophyllotoxin with a leukopenia, an eosinopenia, and a lymphopenia within one hour but did not develop the leukocytosis seen in 24 to 72 hours in the intact rats. Studies were made of the effects of podophyllotoxin on the bone marrow, the spleen weight to body weight ratios of intact and adrenalectomized rats, and also of the changes in the adrenal glands. The bone marrow of both groups of rats responded to injection of podophyllotoxin with a hypoplasia and some cellular aberrations, with evidence of recovery in 72 hours. There was a marked decrease in the ratio of spleen to body weight of intact rats, and a smaller decrease in adrenalectomized rats. Histologic examination showed necrosis and degeneration of the germinal centers of the spleens of intact and adrenalectomized animals, and an increase in the reticulum fibers of the adrenal medulla of intact rats.

The lack of a chemical test of sufficient sensitivity or specificity to detect small amounts of podophyllotoxin made difficult any studies of the distribution, fate, and excretion of the drug in the animal. A bioassay method for podophyllotoxin, based on the lethality to the chick embryo, was developed and applied to a study of the metabolism of podophyllotoxin in animal tissue. The material for assay was obtained by acetone or chloroform extraction of animal tissue and the method of preparation of these fractions is described. It was found that the rate of destruction of the drug during the first half hour was about the same



*in vivo* and *in vitro* and that pretreating of the tissues, before adding podophyllotoxin, with heat or acetone to inactivate the enzyme systems prevented this loss of material. After the first 30 minutes, the rate of destruction *in vivo* proceeded at approximately twice the *in vitro* rate. No evidence was obtained of preferential destruction or accumulation of the drug in liver, spleen, kidney, intestine, muscle, or blood serum. Very little or no podophyllotoxin was excreted by dogs or rats in a chloroform soluble form. The lethality to the chick embryo of the fractions prepared by acetone extraction appeared to be closely related to the tumor-hemorrhaging properties of these materials. Approximately the same dose per gram of mouse which produced hemorrhage and cytologic alterations in tumor implants was found, when given per egg, to be lethal to the chick embryo.

## THE HISTOPATHOLOGY OF NEPHRITIS OF THE DOG

by ANDREW W. MONLUX \*

A study of the pathologic anatomy of nephritis of the dog should begin with a survey of renal diseases in that species. Material for such a survey was available at the Armed Forces Institute of Pathology because the Registry of Veterinary Pathology has selected tissues and protocols from many excellent cases and placed them in the Institute files. Permission was obtained to examine 395 cases in which distinct lesions were noted in the kidney, and 321 of these cases were selected after a careful review as most closely meeting the criteria of nephritis.

Further studies were not made on the seventy-four other cases of renal disease because the lesions represented primary tubular, metabolic, neoplastic, degenerative, or congenital diseases of the kidney. Inflammations believed secondary to these noninflammatory diseases were not discussed; neoplastic diseases, for example, were not included even though the concomitant inflammatory reaction was marked.

Hematoxylin and eosin stained sections were examined on each case, and special stains were prepared when necessary for interpretation. It was possible to divide the diseases into two main groups: those in which the interstitial inflammation was primarily vascular, and those in which it localized in the interstitial tissue.

Fatal glomerulonephritis, such as would be associated with acute and subacute glomerulonephritis, has not been recognized frequently in the dog. That observation was substantiated in this study when only one case of acute glomerulonephritis and five cases of subacute glomerulonephritis were noted.

Two hundred and eighty-three cases were classified as interstitial nephritis. It was possible to group these cases as recognized diseases which have a characteristic interstitial nephritis, suppurative nephritis, other nephritides in which definite scarring has not yet appeared, and classical chronic interstitial nephritis. Since the origin of chronic interstitial nephritis as represented by 83 of these 283 cases is not understood, it was attempted to evaluate the potentiality of the other 200 cases to develop into chronic interstitial nephritis.

Tissues from forty-one cases of leptospirosis were examined in which *Leptospirae* were demonstrable in silver stained sections of kidney. The renal lesions noted in twenty-two of these dogs were believed characteristic of an acute infection. However, the remaining cases were classified as subacute leptospirosis, and the lesions in the kidney were not distinguishable from those seen in a group of thirty-eight dogs which were sacrificed following the observation that their sera were positive

\* D.V.M. 1942, M.S. 1947, Iowa State College; Ph.D. conferred May 30, 1951.

to the macroscopic agglutination test for leptospirosis. When these asymptomatic cases, described as outwardly normal, were considered as a group rather than individually, it was possible to establish criteria for nineteen of them which would indicate that the lesions in the kidney represented a more chronic form of leptospirosis. These criteria were the presence of connective tissue collagen in the characteristic nodular masses of subacute leptospirosis associated with shrinking of the infiltrations, regeneration and replacement of cortical tubules, and thickening of segments of Bowman's capsule and the glomerular capillaries. Further investigation revealed that four of the forty-one cases in which *Leptospirae* were demonstrable could be grouped as chronic leptospirosis. Although it was possible to demonstrate *Leptospirae* more easily in the kidney in acute leptospirosis, there were definite lesions in most cases of leptospirosis which were characteristic and could be used as a guide to instigate attempts to demonstrate typical argentophilic organisms in routine examinations of tissue from suspected nephritis in dogs.

In acute leptospirosis, the diffuse focal periglomerular, perivascular, and intertubular infiltrations of mononuclear cells, which at times resembled lymphocytes, plasma cells, monocytes, or reticulo-endothelial cells, and a few neutrophils, were perhaps the most noticeable changes. This infiltration was characteristically more prominent and extensive at the cortico-medullary junction although small infiltrates were present throughout the entire cortex in fatal or severe cases. Aggregates of these cells were seldom seen in the inner medulla and pelvis. Degeneration and atrophy of tubules in the cortex were noted and the changes were particularly marked in the proximal convoluted tubules. Many proximal convoluted tubules were so desquamated of epithelium, or necrotic, that they could not be recognized, and in others a coarsely granular vacuolated cytoplasm and indistinct pyknotic or fragmented nuclei were seen. Epithelial, granular, and hyaline casts were numerous within the tubules, which also contained a few calculi. Regenerating tubular epithelium was seen in only a few tubules. Tightly coiled argentophilic *Leptospirae* with a characteristic hooked end were demonstrated with the silver stains in the cortex. In the acute stages, they often were seen in the interstitial tissues as well as in tangled masses in isolated tubules in the cortex. The kidneys appeared pale and slightly swollen in the acute stages of the disease. A severe congestion of the medulla contrasting with an ischemic cortex was characteristic, and small petechiae were seen in the capsule and parenchyma. While transitional cases from the acute to the subacute stage could be found they were unusual.

In subacute leptospirosis the presenting symptoms were usually a



result of uremia from a progressive nephritis. The kidneys often were slightly atrophic and the capsule adherent. The most striking lesions were large white or grayish nodular masses in the outer medulla and adjacent cortex which might extend as radial streaks throughout the entire cortex. Since this cortico-medullary junction zone was extensively involved also in acute leptospirosis, the development of these lesions could be explained. The nodular masses were seen microscopically to be composed of infiltrating mononuclear cells and, in the more severe cases, a few polymorphonuclear leucocytes were included. Intact but degenerating tubules were scattered between the abundant cellular exudate. In more chronic subacute leptospirosis pale centers were noted in these masses. Plasma cells, histiocytes, cells that could be isolated degenerating tubular epithelial cells, and cellular debris, often represented by scattered nuclei, made up this central portion, and were surrounded by smaller cells with large nuclei which resembled lymphocytes. Collapsed, atrophic, regenerating, or disintegrating tubules were seen only at the borders of this cellular reaction. The infiltration in the subacute stage was often wedged shaped with the apex towards the capsule, and frequently linear groups of cells extended from the larger masses into the outer cortex.

An interstitial nephritis was noted in most of the fifty-six cases of filariasis. Focal infiltrations of mononuclear cells in the medulla and adjacent cortex and particularly in the stroma beneath the epithelium of the pelvis were noted. It was known that forty-nine of these dogs were from the Filariasis Control Program at Front Royal, Virginia, and had negative agglutination titers for leptospirosis a few months prior to their death; this data and the presence of the lesions just described would indicate that filariasis in this study was not being confused with leptospirosis. However, it was similar to leptospirosis in that little scarring was seen in association with the lesions and that it was difficult to imagine many of the cases of either disease progressing to chronic interstitial nephritis.

A concept was proposed that chronic interstitial nephritis was preceded by a severe focal inflammation. The only large group of cases which seemed capable of progressing in a few weeks or months to this advanced stage characterized by scarring and replacement of parenchyma were the thirty-four cases of focal suppurative nephritis. When these cases of suppurative nephritis were studied, it was impossible to separate conclusively the hematogenous infections and those originating from ascending pyelonephritis. In focal suppurative nephritis, in which the infection apparently did not ascend the urinary tract, the lesions were often extensive and polymorphonuclear leucocytes were present in the tubules. On the basis of history, autopsy findings, and the histologic

changes it was postulated that at least six of the suppurative nephritides were initiated by ascending infections. The inflammation involved the pelvis in at least thirty-one of the thirty-four cases so they could be grouped equally well as pyelonephritis.

All of these thirty-four dogs were acutely ill. The severity of their illness resulted in a request for euthanasia of sixteen of these animals. A nephrectomy was performed on one patient on which there is only a surgical specimen. Symptoms compatible with uremia were described in fourteen of the dogs. Most of the kidneys were described as swollen with adherent capsules. Occasionally, in the same animal, one kidney was slightly contracted and the other enlarged. Irregular yellow or greyish areas were seen under the surface of the capsule and, if they were superficial, they could be either raised or depressed. On section, linear, circumscribed, or nodular lesions were scattered throughout the parenchyma. Pus was seen in the pelvis in some cases. It was not unusual for the abscesses to involve large segments of the cortex and medulla. While these partially encapsulated masses were sometimes soft and formed cavities, in some instances they resembled the lesions of subacute leptospirosis. When the tissue was examined microscopically the most striking lesion was the widespread infiltration of polymorphonuclear leucocytes. This exudate was slightly encapsulated or assumed a linear pattern which filled and distended the intertubular spaces. Mononuclear cells, usually lymphocytes, plasma cells, and monocytes, were noticed at the borders of the lesions or intermixed with the polymorphonuclear cells in the linear infiltrations. There was damage of tubules and glomeruli and evidence of the replacement of some of them with connective tissue. It was not unusual to see polymorphonuclear leucocytes within tubules in the involved areas and this might carry the implication that many cases of terminal pyelonephritis could develop from a metastatic abscess. Often these tubules were collapsed or dilated and filled with acidophilic homogeneous casts. Indentations of the capsule in association with developing scars suggested the development of the contracted pitted kidney in sections in which the acute lesions were still present. Superficial infiltrations occasionally spread through the capsule and invaded the perinephric tissues. The loss of medullary tubules was associated in part with an infiltration of finely granular eosinophilic material which resembled lymph. There were usually only a few polymorphonuclear leucocytes and histiocytes in these areas. The hypertrophy and dilatation of the remaining medullary tubules was fairly proportionate to the degree of medullary damage as evidenced by the loss of tubules. In focal suppurative nephritis the parenchyma between the lesions usually was altered by secondary changes and this was helpful in attempting to identify later stages of this disease.



Warthin-Starry stains for *Leptospirae* were prepared on twenty-two of the thirty-four cases, but argentophilic organisms were not demonstrated. Tissues from ten kidneys were stained by the Brown and Brenn method. In one, it was possible to differentiate Gram positive cocci arranged in long chains in the center of the abscess, and in another, long Gram positive rods in tubules containing polymorphonuclear leucocytes. In three cases, abscesses were found in other organs when all the available tissues on each case were reviewed.

Twenty-seven cases were classified as acute interstitial nephritis; this group did not include those in which a definite correlation with an etiological agent could be made, or those which were characterized by suppuration. The nephritis was usually severe and associated with symptoms of an acute disease, or in some instances, with uremia. There was no definite scarring, replacement, or distortion of the parenchyma. The number of cases could have been greatly increased if all the cases of focal mild interstitial nephritis related to infectious diseases had been included, but this association is so well established that it was not considered necessary to list them. In acute interstitial nephritis histologic examination revealed many tiny foci of lymphocytes, plasma cells, and mononuclear cells scattered in the inner cortex between the tubules. Polymorphonuclear leucocytes might be present in this cellular exudate, but were not prominent. This infiltration was frequently extensive and occasionally involved most of the cortex and outer medulla. A few investigators, in recent years, have attempted to show that acute non-suppurative nephritis progressed to a subacute stage and finally to classical chronic interstitial nephritis. This assumption could not be substantiated in this study. The remarkable ability of the kidney to recover from interstitial nephritis was illustrated in the discussion on subacute and chronic leptospirosis. Scarring in these cases was minimal. The interstitial nephritis represented by the reaction of the kidney to many generalized diseases should disappear with the recovery of the patient. In the dog's kidney it was possible to recognize only suppurative, granulomatous, and certain parasitic diseases, in addition to leptospirosis and filariasis, which produced progressive nephritis and warranted consideration in the development of chronic interstitial nephritis.

In sixteen of the eighty-three cases of chronic interstitial nephritis in this study the extensive fibrosis and tubular change which usually could be regarded as outstanding features were minimal. However, in the other sixty-seven cases of chronic interstitial nephritis there were severe nephritis. The kidneys with these more chronic lesions were usually small, firm, and pale; and one kidney, in the same animal, might be more contracted than the other. The surface was often irregularly



or uniformly nodular and the nodules could be so small that they appeared granular. In some instances cysts directly beneath the capsule were visible on macroscopic examination. The kidneys were fibrous and cut with resistance. On section the cortex was narrowed and the normal markings were completely or partially obliterated. The medulla was reduced proportionately and tiny cystic spaces were noted usually in the outer medulla at the base of medullary pyramids. Often minute or linear cysts were scattered through the cortex, but these were usually smaller than those in the medulla.

Partially fibrosed areas adjacent to parenchyma which was little affected were noted on histologic examination of typical examples of chronic interstitial nephritis. The contraction of the kidney was related to these depressed scars which were usually not superficial but extended as irregular bands throughout the entire cortex and medulla. The most striking and noticeable changes were in the inner zone of the medulla. In this area connective tissue and cellular infiltrates surrounded extremely hyperplastic tubules, glandlike in appearance and frequently dilated. These dilated tubules often formed large cystic spaces and their lumina were filled with eosinophilic hyaline casts. The cystic and hyperplastic tubules projected into the cortex and outer medulla as irregular branching extensions in areas bordering on the zones of fibrosis. Other dilated tubules with thin atrophic flattened epithelium were intermixed with the hyperplastic tubules and were usually more numerous in the cortex. Partial replacement of the cortical parenchyma by connective tissue resulted in atrophy, collapse, and obliteration of tubules and glomeruli. The Bowman's capsule of the glomerulus often became distended with a homogeneous or finely granular material in the zone of fibrosis. As the disease progressed, more and more cystic glomeruli were seen; the tuft of glomerular capillaries became progressively smaller and atrophic as the capsule dilated until the plane of the section included only a cystic space. In a few instances, definite abscesses were noted, but if the advanced lesions were present, the cases were grouped as chronic interstitial nephritis. The infiltrates of mononuclear cells, which often were predominantly of a lymphocytic type, varied in extent in each case but usually were prominent at the borders of the lesions. The blood vessels were often tortuous in the contracted areas and their walls were noticeably thickened. In the linear lesions in the cortex, the exudative response along the interlobular and intralobular vessels and the severe glomerulitis were associated with thickening and narrowing of the arterioles. In the extremely small contracted kidney, a definite fibrotic band separated the cortex and medulla; it seemed to form in segments which became continuous. Some of the irregularly nodular kidneys had wedge-shaped

areas of fibrosis which suggested origin from a healed infarct. It is possible, too, that they could have originated from a slow narrowing of one of the larger renal arteries associated with interstitial nephritis or unrecognized vascular disease.

The inference has been made in the literature that chronic interstitial nephritis represented a group of lesions found in older dogs and in practically all dogs over eight years of age. These assumptions could not be substantiated in this study. Many kidneys of older animals were not scarred, even when those afflicted by diseases other than nephritis were included for consideration. In this study chronic interstitial nephritis was seen more commonly in dogs over three years of age.

The possibility was advanced that a group of benign cases of glomerulitis, designated as sclerosing nephropathy, was related to interstitial nephritis. These lesions which have confused other investigators were found in seventeen of the cases and, therefore, were of rather frequent occurrence. In support of this contention glomerular lesions were noted in some cases of interstitial nephritis in which the cellular exudate was minimal.

## THE STABILITY OF DIHYDROSTREPTOMYCIN SULFATE

by JEAN KELLY NIELSEN\*

Streptomycin, the metabolic product of certain strains of *Streptomyces griseus*, is one of the most important antibiotics available to clinicians. Its antibacterial spectrum, and particularly its activity against various gram-negative organisms and *Mycobacterium tuberculosis*, makes it a valuable adjunct to penicillin, primarily active against the gram-positive group of bacteria. Like penicillin, more than one type of streptomycin exists; also more than one type of salt is commercially available. An important derivative, dihydrostreptomycin, is widely used and is produced chiefly as the sulfate salt.

Dihydrostreptomycin differs chemically from streptomycin only in the addition of two hydrogen atoms to the aldehyde group of streptomycin. The hydrogenation increases the stability of the product over that of streptomycin. The greater stability of dihydrostreptomycin over that of streptomycin and most of the other antibiotics in general use warranted a study of the amount and rate of decomposition at a number of temperatures in an effort to determine some of the physical properties of the molecule.

The literature did not supply much information concerning the stability of solutions of streptomycin and dihydrostreptomycin at various temperatures, especially those above 37° C. In addition, stability studies conducted in our laboratories on solutions of batches of dihydrostreptomycin sulfate from various manufacturers indicated that differences existed in material from different companies as well as in material from the same company. In view of this a comprehensive study was devised in an attempt to obtain information concerning the amount and rate of deterioration occurring in batches of dihydrostreptomycin sulfate stored in solution at seven temperatures, i.e., room temperature (25°-34° C.), 37°, 50°, 60°, 70°, 80°, and 100° C. Representative batches of the salt were supplied by five of the basic manufacturers, which were designated as companies A, B, C, D, and E.

The effect of the different temperatures on the potency of dihydrostreptomycin sulfate solutions was marked. When the solutions were stored at room temperature (25°-34° C.), there was no change in ten months in the potency of any of the fifteen solutions studied, but at 37° C., quite definite losses did occur. Although solutions of the material from companies A and B did not show loss at this temperature, those from company C showed loss after the ninth month and those from companies D and E showed loss at the seventh and sixth month respectively. In the case of the solutions of the salt from company E,

\* B.S. 1939, A.M. 1943, The George Washington University; Ph.D. conferred May 30, 1951.



the potency fell to an average of 60 per cent at the end of ten months. This general picture, in which solutions of the drug from company *A* were the most stable, followed by decreasing stability of solutions of the drugs from companies *B*, *C*, *D*, and *E* in that order, was consistent at each of the higher temperatures. Variation in stability occurred also among solutions of different lots of the salt from the same company, but in general they followed a fairly consistent pattern. As the temperature was increased from 50° C. to 100° C., potency loss occurred in an increasingly shorter time until, at 100° C., it was a matter of only a few hours.

The loss of potency of solutions of dihydrostreptomycin sulfate was correlated with an increase in hydrogen ion concentration. The chemical nature of dihydrostreptomycin is such that hydrolysis results in an increase in the hydrogen ion concentration and a resulting decrease in pH. The speed of the reaction, increasing as the temperature and acidity increases, indicates that deterioration of the salt is speeded by the end products of decomposition, which are probably a variety of organic acids resulting from the breakdown of the disaccharide portion of the molecule. The use of various buffers at 100° C. delayed increase in acidity and thereby increased the stability of buffered over unbuffered solutions.

In addition to changes in potency and acidity, color changes occur in solutions of dihydrostreptomycin sulfate held at various temperatures. Under the influence of temperature, various breakdown products of the carbohydrate moiety are released in the solution. These products are highly colored, ranging from a pale straw to a red-brown, depending on the products and the degree of decomposition. Since it has been shown that solutions of dihydrostreptomycin sulfate decompose more rapidly as the temperature of storage increases, one would expect a more marked and rapid color change as the temperature of storage increased. This was found to be true for all the solutions, although the color changes in those of the salt from company *A* were much less pronounced and occurred at a much slower rate than the changes in the other solutions. There were no color changes in any of the solutions held at room temperature, but at 37° C., a change to straw color occurred in some solutions in four months. At the higher temperatures the colors progressively darkened to red-brown.

The appearance of a precipitate was the final effect noted as a result of storage of solutions of dihydrostreptomycin sulfate at various temperatures. The character of the dihydrostreptomycin sulfate molecule is such that deterioration of any marked degree may result in cleavage of the glucosidic linkage, accompanied by a release of streptidine and the carbohydrate portion, dihydrostreptobiosamine. The resulting

streptidine sulfate is highly insoluble and appears as a finely divided precipitate. The dihydrostreptobiosamine undergoes further degradation, producing the color changes just described and under certain conditions may produce insoluble substances which also appear as a precipitate. Since it has been shown that loss in potency, increase in hydrogen ion concentration, and development of color in the stored solutions are directly dependent, in most instances, on the temperature of storage, it follows that the same would apply to the rate and amount of insoluble material developed. Such was found to be the case, with one exception. No precipitate appeared in the solutions of dihydrostreptomycin sulfate from company A. In the other solutions, amounts appeared varying from slight to heavy, depending on the source of the material, the temperature at which they were stored, and the length of time they were stored at any one temperature. In general, the precipitate formation paralleled the potency loss and the increase in acidity. Variation in the appearance and amount of sediment was found among solutions of the salt from the same company and among solutions of the salt from different companies.

The consistent variations which have been noted find an explanation in the presence of various impurities in different batches of dihydrostreptomycin. Dihydrostreptomycin itself is a distinct chemical entity and the chemical composition as well as the molecular structure has been well established. Consequently, the chemically pure salts of dihydrostreptomycin, regardless of their source, should reveal the same chemical and physical characteristics. However, amorphous dihydrostreptomycin sulfate, as commercially available, is not a pure substance. These statements are borne out by analysis of the data. By assuming that the inactivation of dihydrostreptomycin sulfate follows a monomolecular type of curve, it was found that the apparent reaction rates for the different lots of the salt varied considerably, but the values had little real significance. Calculation of the molar energies of activation, however, showed that they were fairly uniform from lot to lot and averaged approximately 28,000 calories per mole. This indicates that, as just stated, dihydrostreptomycin is a distinct entity with constant properties and that the variations noted are due to impurities in the amorphous salt.

The presence of extraneous material is explained by the fact that during fermentation, *Streptomyces griseus* produces substances (vitamin B<sub>12</sub> is an example) other than streptomycin, and it is probable that certain of these, as well as complex substances from the fermentation broth, pass through the extraction and purification procedures used. These substances are carried over into the dihydrostreptomycin during the hydrogenation process and appear as impurities in the finished



product. It is impossible from a practical standpoint to produce successive lots of dihydrostreptomycin which are identical in character insofar as the impurities are concerned, and the impurities may well exert an influence on the chemical and physical nature of the salt. Thus the impurities in the product from company *A*, which on the average was less pure than that from the other companies, exerted a definite stabilizing effect. The impurities in the products from companies *B*, *C*, and *D* also increased their stability over that of company *E*, but to a lesser degree than that of company *A*. Their influence was also reflected in the other changes which have been set forth in the data.

Results of the analysis of the data allow one to predict certain temperature relationships. For example, for a  $10^{\circ}$  change in temperature there is approximately a three-fold change in the time required for a given change in potency, and for a  $20^{\circ}$  change in temperature there is approximately a ten-fold change in the time required for a given change in potency. If, therefore, a certain potency loss is established at any one temperature, application of the relationship allows a prediction of the time required for the same potency loss to occur at a different temperature.

Comparison of dihydrostreptomycin sulfate in solution and in the dry state make it evident that the dry powder is very resistant to increases in temperature. At  $100^{\circ}$  C., the highest temperature tested, the powder lost no potency and showed only slight color changes, while the solutions completely decomposed.

As a result of the investigational data set forth it may be stated that, although variable effects may be noted, temperature and time of storage induce the following definite changes in solutions of dihydrostreptomycin sulfate: (1) an increase in acidity with an increase in temperature; (2) an increased loss of potency with an increase in temperature; and (3) a definite and decided change in color and amount of particulate material with an increase in temperature. Dihydrostreptomycin sulfate has constant physico-chemical properties and as a result of these properties aqueous solutions are comparatively thermostable at temperatures up to  $37^{\circ}$  C. The above mentioned changes occurring after prolonged storage at these temperatures or during storage at higher temperatures limit the safe storage period. The use of certain stabilizing substances such as buffers and antioxidants will prolong the safe storage period and retard color changes.



## THE TOXICITY, MECHANISM OF ACTION, AND METABOLISM OF HYDROQUINONE

by GEOFFREY DEAN LEROY WOODARD\*

The simple chemical compound, hydroquinone, or paradihydroxybenzene, has many industrial uses, some of which involve an appreciable human exposure. Its uses in photographic developers, suntan preparations, baby oil, synthetic rubber, and animal fat antioxidants are examples in which the human exposure is obvious. In spite of its widespread human exposure and in spite of its chemical simplicity, the pharmacological and toxicological behavior of hydroquinone has been inadequately studied. In his review of the phenols published in 1949, von Oettingen has reviewed the earlier literature thoroughly and has indicated the inadequacy of the information available at that time on the behavior of hydroquinone in man and other animals. The object of the present study, therefore, has been to obtain factual knowledge of the quantitative pharmacological action of this compound, of its mechanism and site of action, and of its metabolism during passage through the body.

Acute LD 50's which relate the quantities of hydroquinone to its lethal action have been determined in a number of species of animals. These quantities expressed as milligrams of the chemical per kilogram of body weight of the animals are as follows: by oral administration, for rats 302, mice 390, rabbits 540, guinea pigs 550, cats 50, pigeons 500, and dogs 200; by intravenous administration, for rats 115; and by intraperitoneal injection, for rats 160.

The poisoning by acute doses of hydroquinone runs a rapid course. Symptoms appear soon after the administration of the drug and include nausea, salivation, fine tremors of the muscles of the neck progressing gradually to voluntary muscles throughout the body, convulsions, and death by respiratory failure. If the dose is insufficient to cause death the animal recovers within a few hours. In dogs and cats there also appears, with large but sub-lethal doses, a swelling of the mucous membranes of the lips and eyes, an opacity of the cornea, and changes in the relative numbers of the formed elements of the blood. These latter effects may persist for several days after the hydroquinone has been given. Because of the rapid course of the poisoning syndrome following oral administration, a number of factors were investigated that might alter the rate of absorption and consequently the quantities necessary to produce an LD 50. The most profound influence on the oral LD 50 in rats was found to be whether or not the animals had been fasted for several hours before administration of the chemical. If hydroquinone was given to rats that had not been fasted, approximately twice as much

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was needed to be lethal as was required for fasted rats. The concentration of the hydroquinone administered also has some influence on its toxicity depending upon whether or not the animals have been fasted prior to its administration. The effect of various vehicles upon the toxicity of hydroquinone was also investigated. However, no differences were noted when the vehicles were 2 or 20 per cent ethanol, 2 or 50 per cent glycerol, water, or corn oil.

As has already been noted, poisoning by hydroquinone runs a rapid course. In addition to indicating rapid absorption, this also suggests that rapid elimination and/or detoxication takes place. A single oral dose of 300 mg. per kg. produces poisoning symptoms and occasionally death in mice. However, if this dose is divided into 3 doses of 100 mg. each given at two hour intervals, no symptoms of poisoning occur. If the repeated doses are 200 mg. per kg., however, accumulation occurs. Therefore, it appears that the mouse is capable of destroying, detoxifying, or eliminating hydroquinone at the rate of 50 to 100 mg. per kg. per hour. In this same connection it might be pointed out that the chronic dogs received one quarter of the lethal dose daily without showing signs of cumulative toxicity. Rats can tolerate a feeding level of 2 per cent of hydroquinone in the diet. This level corresponds to a daily intake of about 1,000 mg. per kg. per day, which is over three times the acute LD 50 dose.

A number of experiments have been carried out to determine whether or not the toxicity of hydroquinone can be explained on the basis of its conversion to quinone since such a conversion of simple solutions of hydroquinone exposed to air does take place. Quinone was found to be more toxic in rats than hydroquinone, but exhibited entirely different symptoms of poisoning. The acute LD 50 in rats orally is 125 mg. per kg. and intravenously 25 mg. per kg. Central nervous system depression rather than stimulation and delayed deaths are the outstanding features of quinone poisoning. Catechol, which also forms a quinone, exhibits poisoning symptoms similar to hydroquinone and is slightly more toxic. However, resorcinol, which does not form a quinone, is about equally toxic with hydroquinone and also exhibits similar signs of poisoning. The phenylenediamines form quinone imines in a way analogous to the dihydric phenols. Their toxicity to rats and mice has also been determined, and there is no parallelism between their relative toxicity and that of the corresponding dihydric phenols. The comparative oral LD 50's in mg. per kg. determined for the three dihydric phenols and the three diaminobenzenes are as follows: catechol (ortho), rats 145, mice 200; ortho phenylenediamine, rats 900, mice 1,000; resorcinol (meta), rats 330, mice 500; meta phenylenediamine, rats 375, mice 160; hydroquinone (para), rats 302, mice 390; para phenylenedia-



mine, rats 75, mice 180. The distributions of hydroquinone and quinone between oil and water have been determined. The low oil-water ratio for hydroquinone is unfavorable for its penetration through cells and into the central nervous system, whereas the reverse is true for quinone.

The stimulating action of hydroquinone on the central nervous system can be partially prevented by pentobarbital, and less so by phenobarbital. This stimulant action does not appear to be due to an interference with the choline esterase enzyme system, since dogs with depleted cellular and plasma choline esterase were no more susceptible to hydroquinone than were normal dogs. Moreover, atropine does not prevent the development of hydroquinone poisoning symptoms in mice. Priscol, an adrenergic blocking agent, also was without effect on poisoning symptoms in mice. BAL, a SH enzyme activator, does not prevent the development of poisoning symptoms.

It has been observed that minor toxic symptoms following acute sublethal doses of hydroquinone such as food refusal in rats, lowered cell counts, emesis, salivation, and irritation of the mucous membranes around the eyes in dogs disappear even though these same doses are repeated daily. Experiments on both rats and dogs indicate that a tolerance is developed to these minor toxic signs. This tolerance is lost in dogs after about four weeks freedom from the chemical, but soon develops again upon resumption of hydroquinone administration.

Hydroquinone has been fed daily except Sunday to dogs at levels of 25 to 50 mg. per kg. for 819 days except for a four week respite after 283 days of feeding. Aside from the minor toxic symptoms that appeared initially, and again after the drug was resumed following the four week respite, no symptoms of chronic poisoning appeared with the exception of an effect on weight in one dog. In this animal the weight fell below normal in the early days of the experiment but later returned to normal even though drug administration was resumed after a short respite. Growth on all other dogs was within normal limits. Except for the initial period, blood counts taken periodically throughout the experiment revealed no striking abnormalities. Gross examination of tissues and organs of these dogs at the end of the experiment yielded only normal findings. However, upon microscopic examination, some bone marrow hyperplasia and extra pigment in the spleen were seen, thus indicating that red cell destruction in excess of normal had been taking place. This picture adds weight to the observation in subacute experiments in cats and guinea pigs, and early in the dogs, that the relative numbers of the formed elements of the blood had been altered from the normal.

In order to study the excretion and probable distribution of hydroquinone, an analytical method has been developed which is relatively



specific and satisfactory for its determination in biological fluids. The method depends upon the fact that hydroquinone exhibits a strong absorption in the ultraviolet. A broad peak is found at 294 millimicrons using methanol as the solvent. This peak is far enough removed from phenol and catechol absorption maxima to be usable. Absorption at 320 millimicrons by hydroquinone is negligible so that where necessary a two-color procedure can be utilized to correct for background interference. Hydroquinone is extracted from the tissue or fluid with ether in a continuous extractor, the ether removed, and the residue taken up in a suitable quantity of methanol. Quantities as low as 0.005 mg. per ml. give sufficient absorption at 294 millimicrons to be determined with ease. Recoveries of 0.5 to 2.0 mg. of hydroquinone added to samples of urine ranged from 60 to 85 per cent. About 0.2 mg. was not recovered in each case.

The distribution of hydroquinone between butanol and water at 25°C. was determined to be 5.6. This ratio is such as to make such a system useful in separation of hydroquinone from interfering materials.

By the use of the ultraviolet analytical method, the excretion of free and combined hydroquinone in the urine of man receiving 3 mg. per kg. and of a dog receiving 50 mg. per kg. by mouth was determined. No free hydroquinone was found in the case of man receiving a total dose of 200 mg. and only 2.2 mg. was found in the urine of the dog receiving a total of 640 mg. In man 19 mg. or about 10 per cent of the dose was excreted in a combined form. In the dog 183.2 mg. or about 30 per cent of the dose was excreted in a combined form. The fate of the remainder of the hydroquinone is unknown. Presumably, the ring is broken and the residue is then completely metabolized.

Qualitative tests of fractional samples of human and dog urine indicate that hydroquinone is excreted in part as the ethereal sulfate and in part as the glucuronide. In both cases, tests were given for the monoconjugated products although diconjugated products may have been present.

Since the suggestion had been made that cocaine interferes with conjugation in the liver, both mice and dogs were treated simultaneously with large doses of cocaine and hydroquinone. However, no alterations in the expected course of hydroquinone poisoning were observed.

Consideration has been given based upon the present study together with the data published in the literature with respect to the safety of the various uses of hydroquinone for man.

## A STUDY OF THE TROPICAL AMERICAN BLACK MILDEWS

by RAFAEL A. TORO •

The results obtained from the studies herewith depicted have convinced us that in determining relationships among the fungi their mode of existence is as important as their morphological characteristics. There are apparently three biologically distinguishable groups of superficial fungi, each including forms which can be recognized by their morphological features. These three groups are as follows:

1. *Those directly parasitic on leaves.*—Here belong the Erysiphaceae with hyaline mycelium and Oidium-like conidia; the Parodiellinaceae, with no external mycelium but with superficial ascocarps arising from stomopodia; the Meliolaceae, with extensive colored mycelium, epidermal haustoria arising from underneath the hypopodia, and lacking a conidial stage; the tribe Parodiopsidaceae of the Parodiopsidaceae, with abundant color, external mycelium, conidial stage not Oidium-like. Here also can be included the Microthyriales with inverse-radiate ascocarps and some of the Englerulaceae which possess anhistous fruiting bodies at maturity.

2. *Those purely superficial and therefore saprophytic.*—Here belong the Capnodiaceae with dematioid mycelium forming a black-layer which is easily separable and fruit bodies never of straight-walled cells; the Trichothyriaceae, with mycelium like the above but not dematioid, and with fruit bodies formed directly from the mycelial pellicle.

3. *Those parasitic on other leaf parasites and hence epiphytic.*—To this group are assigned the Dimerineae tribe of the Parodiopsidaceae, some Trichothyriaceae, Englerulaceae, Hypocreaceae, and Hemisphaeriaceae.

The order Perisporiales is shown to be unteneable both in taxonomy and nomenclature. The disposition of the several genera and their typification has been considered in detail particularly with emphasis on the Meliolaceae and the Parodiopsidaceae. In the case of *Meliola*, the type of the family Meliolaceae, a lectotype, *M. trichostroma* is proposed in lieu of the previous improper designations. The accompanying table summarized this interpretation of the tropical leaf inhabiting mildews and related ascomycetes.

• B.S., 1921, University of Puerto Rico; M.S., 1925, Cornell University; A.M., 1936, Harvard University; Ph.D. conferred November 12, 1951.

## COMMON AND SCIENTIFIC NAMES OF THE MORPHOLOGIC AND BIOLOGIC GROUPS OF THE OLD PERISPORIALES

Common name	Scientific name	Biologic relation	Morphologic characters
Powdery mildews	Erysiphales	Parasitic	Hyaline mycelium, conidia Oidium-like, ascocarps colored, astomous
Asterineans	Microthyriales Hemisphaeriales	Parasitic Epiphytic	Color mycelium, usually with hyphopodia, fruit bodies inverse-radiate
Sooty-molds	Capnodiales	Saprophytic Epiphytic	Color mycelium dematioid or straight, fruit bodies of meridian hyphae; whole easily detachable as a superficial black pellicle
Black mildews	Pseudosphaeriales Meliolaceae	Parasitic	Mycelium of straight walls, colored, ascocarps parenchymatous, pellicle persistent



## GEORGE STEEVENS AND THE BOYDELL SHAKESPEARE

by EVELYN WINGATE WENNER •

To his work as editor of Shakespeare's plays, George Steevens (1736-1800) subordinated a great diversity of interests and powers. There exhibited in one large focal endeavor are the abilities of the artist, the player, the antiquarian, the classicist, and the poet. From a study of Steevens' contributions, as well as of sources pertinent to his life, emerges a man whose genius bears almost the full imprint of his times and whose achievements have never been completely identified or displayed. A clear perception of the expanding interest in British history and letters fixed the compass of his scholarship, and though Steevens is known chiefly for his Shakespearian writings, his true stature can be discerned only through a consideration of his additional studies and of the convictions that motivated his work. In the preface to his *Twenty Plays of Shakespeare* (1766 reprint of the quartos) Steevens set forth these basic and controlling concepts:

It is not merely to obtain justice to Shakespeare, that I have made this collection, and advise others to be made. The general interest of English literature, and the attention due to our own language and history, require that our ancient writings should be diligently reviewed . . . Enough has been already done to encourage us to do more. Dr. Hickes, by reviving the study of the Saxon language, seems to have excited a stronger curiosity after old English writers, than ever had appeared before.

Steevens' leadership in the historical movement was predictable if not altogether assured. In his personal experience and family background were many circumstances conducive to an interest in the past. The riches that made possible his literary independence were derived from channels long tributary to the rising national wealth. In Poplar, where Steevens spent his childhood, were reminders of English naval history and of the achievements which linked the mariners of his own family with the great navigators of earlier days. From Admiral Charles Steevens, his uncle, the line of seafaring ancestors extended backward through a notable forebear of the seventeenth century, Sir Richard Haddock, and thence into the company of the great Elizabethan commanders. At the Kingston Grammar School, where he resided for perhaps six years, Steevens shared a heritage which, though traceable to the fourteenth century, was familiarly centered on memorials and donations of Tudor days. In 1750 Steevens father acquired from King's College, Cambridge, leasehold rights to the manor of Dunton Waylet, Essex, an estate which at the suppression of the Alien Priors in the

• A.B. 1920, Blue Ridge College; A.M. 1937, Johns Hopkins University; Ph.D. conferred November 12, 1951.

fifteenth century had been confiscated by the Crown and diverted to the benefit of native learning. Dunton Waylet provided one more basis of intimacy with the past and at the same time served as a medium of contact with Cambridge University and the college of Steevens' choice.

In 1753 Steevens entered King's College as a Fellow Commoner from Poplar in Middlesex. With a purposiveness beyond his years, he elected to study both the traditional classical studies and the newer branches of contemporary concern. Dr. William Barford, his tutor in the Greek and Roman subjects, inducted him into the methods of criticism which he later applied to his own work as editor and commentator of Shakespeare's plays. James Bretherton, resident drawing master and disciple of Hogarth, taught him the elements of draughtsmanship and demonstrated the broad usefulness of the pictorial arts.

Steevens left Cambridge in 1756, his withdrawal probably occasioned by the outbreak of the Seven Years' War. Having completed the residence necessary to a fellowship, he had little hesitancy in quitting the academic scene to accept a commission in the Essex Reserve. He remained in the army for several years, considering in the meanwhile the whole range of his ambitions and fixing at last his hopes on the possibility of introducing himself to the world as an "editor in form". At the conclusion of his military service Steevens went to London and took up residence in the Temple. There he made the acquaintance of Dr. Johnson and received almost at once the approval which he deemed essential to the realization of his hopes. His name is prominent among the supplemental contributors to Johnson's 1765 edition of Shakespeare, and Johnson readily encouraged Steevens to prepare his *Twenty Plays* (1766), thus laying the foundation for the collaborative edition of 1773.

Steevens soon gained the favor of those interested in the revival of English learning. Election to the Society of Antiquaries and to the Royal Society followed close upon the publication of the *Twenty Plays* and of his *Proposals* for offering a fully annotated edition of Shakespeare's plays. Private endorsement was not lacking. Thomas Percy declared the young editor learned almost beyond parallel and endowed with the most amiable attributes of person. David Garrick, finding him sympathetic to the histrionic art and to the actor's interpretation of Shakespeare, gave even more extraordinary expression of his esteem.

The first Johnson-Steevens Shakespeare appeared in 1773. Though the preface included certain reminders of the "additional notes", the claims of improvement centered chiefly upon the text: "The labours of preceding editors have not left room for a boast, that many valuable readings have been retrieved; though it may be fairly asserted, that the text of Shakespeare is restored to the condition in which the author, or rather his first publishers, appear to have left it, such emendation



as were absolutely necessary, alone admitted." For the annotations there were no similar assurances; there was, on the contrary, an admission of almost infinite defectiveness and need:

If it is not to be expected that each vitiated passage in Shakespeare can be restored, till a greater latitude of experiment shall be allowed; so neither can it be supposed that the force of all his allusions will be pointed out, till such books are thoroughly examined, as cannot easily at present be collected if at all . . . To the other evils of our civil war must be added the interruption of polite learning, and the suppression of many dramatick and poetical names, which were plunged in obscurity by tumults and revolutions, and have never since attracted curiosity. The utter neglect of ancient English literature continued so long, that many books may be supposed to be lost; and that curiosity, which has been now for some years increasing among us, wants materials for its operations.

In these statements Steevens depicted, if only indirectly, what he conceived to be the real field of future editorial endeavor and prefigured the whole pattern of his own subsequent work. The "illustration" or explication of Shakespeare's plays was now the editor's imperative task; and the road of the illustrator was the road of the collector, the historian, the player, and—by implication, at least—the artist. Included in the preface is a tribute to the publisher, Jacob Tonson, whose name recalled a publishers' dynasty which had deliberately created and steadily fostered a taste for illustrated editions of Shakespeare's plays.

Accepting the now crystallized aims of full editorial activity, Steevens commenced forthwith to prepare a new and enlarged edition of Shakespeare's plays. From this time on he pursued with increased diligence his search for the books, manuscripts, and pictures that would serve to illustrate his author or contribute to the general revival of the native arts. He bought many rarities for the enrichment of his library and of his collection of prints. Items which were beyond price he copied, making with equal facility both textual and pictorial transcripts. Though he retained Dr. Johnson's favor and had his nominal collaboration, Steevens now worked independently. Among the positive signs of his new autonomy was an expanded interest in the visual representation of Shakespeare's plays. In 1774, his plan for the new issue already declared, Steevens confided to David Garrick his broader concept of illustration and enclosed the "proof of an unfinished plate" that he intended for "the future explanation of more than a half dozen passages in Shakespeare". The engraving, which showed figures of the ancient Morris dance, appeared in the edition of 1778 along with other pictorial inclusions, all of a realistic kind and all directed to the service of illustration.

Steevens' work attracted the attention of many men who shared his vision and who were already engaged in enterprises complementary to his own. Richard Farmer, Thomas Tyrwhitt, Isaac Reed, and Edmond



Malone were among the many who joined with Steevens to establish a fraternity of scholarship, whose reciprocities effaced all individual obligation or defect. Personal attachments were inherent in such relationship, and these men who worked together for the advancement of English learning formed close and enduring friendships. Writers have reported the animosities that sometimes arose. They have not reported in any comparable detail the loyalties that suffered no alteration or the friendliness that often survived the breach.

His second annotated edition was published in 1778. Four years later Steevens announced that he would not again appear as an editor of Shakespeare's plays. Afterwards reaffirming his assertion, he committed to Isaac Reed all the materials of his Shakespeare collection together with the responsibility of editing a third issue of his text. Though he had made no claims of excellence for his own last edition, a sense of accomplishment was certainly conducive to his subsequent course of action. Also effective were interests and purposes long deferred. The broad vista of scholarship which he had depicted in the advertisements to each successive edition of his plays was still imperatively clear to him, and he had now the opportunity for the larger service of his own perception. Most of his collaborations belong to the decade between 1779 and 1789. His contributions to Nichols' *Anecdotes of Hogarth*, Herbert's *Typographical Antiquities*, Reed's *Biographia Dramatica*, Johnson's *Lives of the Poets*, and Tyrwhitt's Rowley studies must all be assigned to this period.

Confining and arduous though his work had been, Steevens had not neglected the social obligations incumbent upon his estate. To his new home in Hampstead came men of rank and distinction. Earl Spencer, Sir Joseph Banks, the Duke of Leeds, and William Windham were in the circle of his more notable associates. Steevens now availed himself of the opportunity for more liberal hospitality and more extensive participation in fashionable affairs. Pursuant of both his professional and social concerns, he renewed his contact with the Cambridge scene. Using the prerogatives of his fellowship, perhaps for the first time, he now explored the offerings of the University libraries and shared with other visiting scholars the diversions of the University and the town. In the annual representation of the Stourbridge Fair, main recreation of his undergraduate days, and once more his chief delight, Steevens could note the practice of many ancient customs, and in the theater of the Fair he could observe usages little changed since Shakespeare's time.

At Cambridge Steevens also had opportunity and need to exercise his abilities both as an artist and as a critic of art. Though his friend William Cole does not indicate knowledge of Steevens' training under James Bretherton, he does express great satisfaction in the editor's con-

sent to etch for him Michael Tyson's drawing of the antiquarian Browne Willis, Tyson himself having given up engraving "ever since Mr. Bretherton left Cambridge". During the sixteen years of these visits Steevens used his skill as a draughtsman and engraver on many other occasions. He made a series of drawings of the famous churches in Cambridgeshire, and he used every possible opportunity to acquaint himself with the art treasures of the area. Isaac Reed in his diary reports more than one outing from the University which had as its object the inspection of some famous picture or other object of art in a private gallery of the Cambridge region. In a letter to Malone, dated November 20, 1782, Steevens thus reports the varied occupations of these University days: "My Cambridge tour ended as it began, in dissipation. The Cotton & Hatton families, the Fair, the Plays &c. absorbed all my time, so that a transcript of about one third of William & the Werwolf, and a drawing from Sr. Christopher Hatton's Portrait, was the whole I could compass during my nine weeks' residence at Emmanuel."

In 1786 Steevens remained in Cambridge for several weeks after the closing of the fair. He returned to Hampstead about the middle of November, to find an invitation to aid John Boydell in his plan to publish a great national edition of Shakespeare. William Hayley, who had advised Boydell to engage Steevens as editor, was only the spokesman for a group wholly agreed that Steevens should be retained for the work. There is no indication that Steevens hesitated to collaborate in the venture, and if he remembered his avowal of retirement, it was possible to argue that his position remained essentially unchanged. The plan called only for the illustration by pictures, and there was no prospect of undertaking any large or difficult task. Even the text, it appeared, would be hardly more than a reprint, for it was still assumed that Shakespeare was now almost perfectly "restored". Moreover, there were promises of assistance from both Reed and Farmer.

In the first *Prospectus* of the Boydell Shakespeare, dated December 1, 1786, the leading place was given to the proposal to publish by subscription "a magnificent and accurate edition" of Shakespeare's plays. Details affecting volumes, size, paper, type, and text followed in a carefully graded pattern of emphasis, the whole preliminary announcement concluding with the name of the editor-elect, George Steevens, Esq. With the text would be combined sets of engravings in two sizes done from paintings of the most prominent living artists, all for ninety guineas the subscription. Every distinguished artist of the day (Gainsborough excepted) was retained for the work. The *Prospectus*, with no attempt at inclusiveness, listed twelve great contributing painters and a like number of notable engravers. First in the enumeration was Sir Joshua



Reynolds, President of the Royal Academy. Though the cost of the edition was largely contingent on the prints, the serial pattern of eighteen numbers and the allocation of the seventy-two paintings—"being two appropriated to each of the plays of Shakespeare"—indicated a controlling awareness of the thirty-six plays admitted to the canon. There were, moreover, certain explicit provisions which helped to maintain the awareness. Subscribers were promised "gratis" a head of Shakespeare accurately delineated from the bust on his monument at Stratford and designed as a frontispiece for the first volume of the plays. There were also promised the prefaces of Pope and Johnson, and title pages for all the plays. Only the final word to subscribers reveals the essential duality of the scheme and the ascendant aims of the publishers:

As the foregoing Work is undertaken in Honour of Shakespeare,—with a View to encourage and improve the Arts of Printing and Engraving in this Kingdom,—and at the same time cannot fail to be attended with the Expense of £50,000 or more, it is hoped the Publick will be forward in their Subscriptions, and thereby incite the various Artists engaged in the present arduous Design, to exert their utmost abilities in the Execution of it.

The printing of the Boydell Shakespeare, dependent on the work of the painters and on the general progress of the scheme, was long delayed, and Steevens in the meanwhile pursued his usual diverse affairs. He continued his barter in the market of rare books and pictures, acquiring in this period some of the most valuable items in his collection. He continued also his gratuitous service to scholars, his assistance ordinarily conjoined with his own bibliographical activity. It was to theatrical comment and other journalistic composition, however, that Steevens in this period directed the chief force of his critical powers. Even when he was most closely occupied with his duties as editor, he had never quite separated the functions of commentator and actor, and he had found opportunity in the decade of his "retirement" not only to enjoy the provincial drama but also to assume a position as critic of the London stage. His observations on the theaters appeared chiefly in *The Public Advertiser* and the *St. James' Chronicle*. In the latter publication, and in this same decade, there appeared also many of the mischievous and witty writings which gained for Steevens at last the title of the "Puck of Commentators".

In 1789 Alderman John Boydell, now ready to initiate the work of publication, offered a reprint of his original proposals. Three full years had elapsed since he first announced the plan for his "great national Shakspeare". This interval had seen the accomplishment of his promise to found a school of historical painting. It had also seen the painters and their work take foremost and almost exclusive place in the expectations and concern of the public. The paintings had already become the



project, and many who witnessed the successive exhibitions of the Shakespeare Gallery had entirely forgotten or were quite willing to forget that the Alderman had also promised a text with "accompanying illustrations".

Steevens, at first an ardent advocate of the plan, soon realized that the editor of this text must in the very scheme of things give way to painters, publishers, and engravers. Even with the subscribers the text had second place, and with the general public it had almost no interest at all. The discomfiture of such realization was increased by disappointment in the character of the paintings. To George Steevens, draughtsman and collector of Hogarth, Bunbury, and Gillray, the pictures were neither historical nor artistic. Fuseli's transcendent impressions he could approve, but most of the others appeared to him as "ideal and theatrical". Publicly, however, Steevens said nothing. He had accepted the invitation to edit the plays, and even this residue of distinction was not to be scorned. Moreover, he continued to hope for some restoration of the balance between the text and the pictures. Reprint of the *Prospectus* recalled the original hierarchy of the edition, and in the first number the dedication to the King stood very close to the title page and to the Advertisement which proclaimed the gratuitous assistance of George Steevens.

Open disparagement of the paintings, however, was not entirely lacking. Horace Walpole had several times condemned them, and Humphrey Repton in the *Bee, or Catalogue Raisonné of the Shakspeare Gallery* had hinted of extensive disapproval while indicating his own readiness for combat on the side of art and the moderns should another great battle of the books ensue. Attached to the preface of Malone's edition of 1790 was the following significant footnote:

Notwithstanding our high admiration of Shakspeare, we are yet without a splendid edition of his works, with the illustrations which the united efforts of various commentators have contributed; while in other countries the most brilliant decorations have been lavished on their distinguished poets. . . . Nor will the promised edition, with engravings, undertaken by Mr. Alderman Boydell, remedy this defect, for it is not to be accompanied with notes. At some future, and not very distant, time, I mean to furnish the publick with an elegant edition in quarto, (without engravings,) in which the text of the present edition shall be followed, with the illustrations subjoined in the same page.

When Malone's edition appeared, Steevens was already reading the proof sheets of the first number of the Boydell Shakespeare. Impelled by perhaps unwilling agreement with Malone's sentiments as expressed in the note and also by the intent of giving battle on the issue of the folios, Steevens proceeded at once with the preparation of his own annotated text. Except for the visits to Cambridge he now devoted himself exclusively to the demands of his two editions. Contemporary

writers who hardly understood the requirements of the time have told the story of the early morning walks from Hampstead to Staple Inn. T. F. Dibdin, chronicler of the Shakespeare Press, has given a picture sufficiently specific and correct:

The respectable compiler of the *Gentleman's Magazine*, vol. lxx. p. 178, has given us some amusing particulars of Steeven's literary life: of his coming from Hampstead to London, at the chill break of day, when the overhanging clouds were yet charged with the "inky" purple of night—in order, like a true book-chevalier, to embrace the first dark impression, or proof sheet, of his own famous octavo edition of Shakespeare; and of Mr. Bulmer's sumptuous impression of the text of the same.

The edition of 1793 appeared in less than two years after Steevens began the work. So short was the interval between Malone's edition and this that at least one periodical reviewed the two works at the same time, its comments undisturbed by any real sense of the great differences involved in the comparison. The two editions were almost diametrically opposed. Malone, trusting to the efficacy of logic, had demonstrated the authority of the First Folio for all plays not earlier published in quarto; Steevens, preferring the method of persuasion, and using all the devices of a flexible and brilliant style, urged the superiority of the Second Folio. He who had hoped to vindicate every rejected reading of the old copies and had once promised to remove "silently" whatever had been "injudiciously added" now defended additions that contributed only to the "improvement of meter" and many times preferred the emendations of Pope, Warburton, and Hanmer to the "decisions" of Heminge and Condell. Outwardly the work conformed to the standard that Malone had proposed for his own "national edition" of Shakespeare. It was Steevens' answer to Malone's strictures on the Boydell Shakespeare, and the response was not altogether a contradiction. In his opinion, as in Malone's, a national edition required illustration, and this illustration, now that the painters had failed, he himself had undertaken to provide.

In the meanwhile the first number of the Boydell Shakespeare had appeared, and Dibdin thus reports the event:

In January, 1791, appeared the first Number of the Shakespeare: containing the plays of *Richard III.* and *Much Ado About Nothing.* The most sanguine predictions of success accompanied its publication; and our illustrious Bard, in consequence, came regularly before the public in a suit of clothes so rich and rare, "that it was a marvel and a joy to behold."

Following his own earlier practice and the example of many foregoing editors, George Steevens had turned to the nearest preceding edition as providing most suitable copy for the new publication. With the exception of *King Lear*, the plays of the first three numbers were printed from



Reed's edition of 1785. Malone's edition of 1790 was available for the proofreading of these plays and inspired or furnished many of the alterations prescribed. The other thirty-one plays were printed directly from Malone's text. Beginning with those in the seventh number, all plays were "regulated" by Steevens' edition of 1793. The thirty-six plays, printed from the texts of Reed and Malone, divide thus into the following three groups: (1) five plays of the first three numbers printed from Reed's edition of 1785 with many changes adopted from the Malone text of 1790, (2) *King Lear* and the six plays of the next three numbers printed from Malone's edition of 1790 but exhibiting conspicuous deviations from his basic text, (3) twenty-four plays of the last twelve numbers also printed from Malone's text but made to conform to Steevens' own edition of 1793.

With each successive number after the sixth the Boydell Shakespeare approached more closely to the Steevens edition of 1793, which was available for the proofreading of *Troilus and Cressida* (first play in the seventh number) and all following plays. Despite this prevailing conformity each play makes some deviation from the pattern of the regulating text. Changes which Steevens advocated but which he did not care to impose on his own edition are often exhibited here. Most of the variations are directed toward the "improvement" of meter in conformity with Steevens' preference for the Second Folio and are supported by commentary in his edition of 1793.

The plays of the last two groups also show persistent but varying degrees of correspondence with the base text. For some plays the agreement approximates identity. Among the Boydell plays that remain notably close to Malone's text are 1 and 2 *Henry IV*, *Henry V*, 2 and 3 *Henry VI*, *The Comedy of Errors*, *A Midsummer Night's Dream*, *Julius Caesar*, and *Coriolanus*. To be weighed against the six recorded deviations of the last-named drama is the apparently perfect correspondence of four complete scenes. The other seven plays are also closely congruent with the base copy. Malone's stage directions and his pages of *dramatis personae* are reprinted almost without change in the last thirty-one plays of the Boydell series. This frame of identity combines with general textual agreement to impose on the Boydell copy characteristic features of the Malone text.

After 1793 Steevens and his associate editor, Isaac Reed, looked chiefly for compositor's errors and carried on the comparatively easy task of proofreading. The last three numbers appeared after Steevens' death, though his corrections are on the proof sheets of *King John* and *King Richard II*, the two plays of the sixteenth number. Isaac Reed and George Nicol read the proofs of the last four plays. Reed as the succeeding editor-in-charge occasionally deserted the established regulant



and imposed a reading from his edition or referred the compositor to a variant in Dr. Johnson's text of 1765. In general, however, the tenor of the work remained unchanged after Steevens' death. His edition of 1793 continued to regulate the proof copy, and his readings almost invariably prevailed over those of the base text.

THE INFLUENCE OF GENETIC AND OTHER FACTORS ON  
THE SUSCEPTIBILITY OF *AUSTRALORBIS GLABRATUS*  
TO INFECTION WITH *SCHISTOSOMA MANSONI*

by WALTER LLOYD NEWTON \*

The importance of schistosomiasis as a public health problem is discussed and various methods of control are reviewed with emphasis placed upon the eradication of species of snails serving as intermediate hosts of the parasite. Recent studies have demonstrated that intermediate host-parasite relationships are complicated by the existence of geographical strains of both parasite and snail host which differ in infectivity and susceptibility, respectively. The significance of these findings in connection with control of the disease is discussed. Particular interest has been occasioned by a recent study which showed that a Puerto Rican strain of the snail *Australorbis glabratus* was susceptible to infection with its local strain of *Schistosoma mansoni*, whereas a Brazilian strain of *A. glabratus* was completely refractory to infection with this parasite.

Inasmuch as these two strains of *A. glabratus* and the Puerto Rican strain of *S. mansoni* were available to the writer, an attempt was made to ascertain something of the nature of the factors underlying the difference in susceptibility between the two geographical strains of the snail. Previous investigations, which are reviewed, have demonstrated a genetic basis for the existence of susceptible and non-susceptible lines in a vertebrate host species after exposure to certain disease organisms. While little precedence for the existence of such a basis is present among studies of invertebrate intermediate hosts of parasitic organisms, this line of investigation offered considerable promise. The present thesis describes the results obtained in susceptibility studies of  $F_1$ ,  $F_2$ , and  $F_3$  progeny derived from crosses between the two snail strains. There are also presented data on the influence of age upon susceptibility to schistosome infection, a comparison of the tissue response in the two strains to the presence of the parasite, and incidental information on the inheritance of the ability to form pigment in *A. glabratus*. The essential findings and conclusions are presented in summary below.

*A. glabratus* was demonstrated to self- as well as cross-fertilize. Consequently, the origin of progeny obtained after pairing two snails cannot ordinarily be known with certainty, a difficulty which has been manifest in other studies on the inheritance of a character in hermaphroditic snails. This problem was obviated in the present study by the use of color factors. A non-susceptible red mutant variety of the

\* B.S. 1942, A.M. 1948, The George Washington University; Ph.D. conferred February 22, 1952.

Brazilian strain was obtained and was used for crossing purposes. The red condition bred true and was recessive to the brown pigmented condition of the wild-type snail. Consequently, when pigmented susceptible Puerto Rican snails were paired with red non-susceptible Brazilian snails offspring from the latter represented  $F_1$  hybrids of the two strains.  $F_2$ 's were then obtained through self-fertilization of the  $F_1$ 's and  $F_2$ 's as the result of self-fertilization of the  $F_1$ 's.

Data are presented on the susceptibility of snails of the Puerto Rican strain which served as controls during the susceptibility tests of the hybrid material. The findings indicated that the infection rate of this strain was quite high and was dependent upon the number of miracidia to which the snails were exposed and upon the age and size of the snail. When exposed individually to ten miracidia, 95 per cent of juveniles and young adults became infected whereas only 72 percent of larger, older snails became infected. Possible reasons for the difference in infection rate, including the existence of physical factors deterring penetration by the miracidia and a slight age resistance, are discussed.

Members of the non-susceptible Brazilian strain were uniformly negative as juveniles and adults regardless of the number of miracidia used. However, a few very young snails could be infected up to the age of 3 weeks even when exposed to only five miracidia. Data on the susceptibility of recently hatched Brazilian snails are presented.

The progeny from five non-susceptible Brazilian snails which were known to have been fertilized by susceptible Puerto Rican snails were tested for susceptibility over three generations. These progeny were exposed as juveniles or young adults to ten miracidia. Checks on susceptibility included the dissection of every negative snail. Also some statistical analyses were performed in connection with tests for homogeneity both within and among the various progeny groups. Several tables are presented which indicate the infection results obtained with the  $F_1$  from the five crosses, the  $F_2$  progeny from 40 different  $F_1$  parents, and  $F_3$  progeny from 47 different  $F_2$  parents.

The occurrence of some susceptibles among the  $F_3$  progeny of the non-susceptible parent in three of the crosses provided immediate evidence that the difference in susceptibility between the two strains had, at least in part, a genetic basis. The findings also indicated that members of one or both of the original strains were not genetically uniform with regard to susceptibility in spite of the apparent phenotypic uniformity within a strain.

The results with nearly 5,000  $F_2$  and 1,000  $F_3$  progeny indicated that several genetic factors influence susceptibility. Non-susceptible  $F_1$  parents produced  $F_2$  progeny varying in infection rate from 3.1 to 58 per cent. In a few instances infection rates among  $F_3$  progenies approximated



those of the parental strains, with extremes as far apart as 0 and 85 per cent.

Data are presented on the infection rates of  $F_1$  snails exposed at ages varying from 1.5 to 5 months. Age did not appear to be an important factor in variation in infection rate within these limits. The infection rate among pigmented  $F_1$ 's is compared with the rate of red siblings. There was a slight but significantly lower infection rate among the pigmented members of a progeny.

The inheritance of susceptibility to schistosome infection in snails is discussed and compared with that of the predisposition of mice for tumor development, for which the concept of a physiological threshold for the alternative expression of a character controlled by multiple factors has been postulated. The likelihood that geographical strains of a vector species can represent different genetic populations with regard to the character of susceptibility is also discussed.

In an effort to obtain visible evidence of the mechanism by which the non-susceptible condition manifested itself against the parasite, a study was made of sections of 50 Puerto Rican and Brazilian snails some of which had, and others of which had not, been exposed to infection. The microscopic findings are presented along with several illustrations. In the Brazilian snails the parasites are destroyed within 24 to 48 hours after penetration. As at least a part of this process, there is a marked cellular infiltration of the area. In contrast, no apparent cellular reaction was manifested against the parasite in the Puerto Rican snails. These findings are discussed and an hypothesis presented which suggests the existence in the non-susceptible strain of a natural antibody, not possessed by the susceptible strain.

Data on the distribution with regard to the pigmented or red condition among 8,000  $F_2$ 's are presented. These findings together with the distribution of pigmentation among the  $F_1$  snails indicated that the ability to produce pigment in *A. glabratus* is inherited as a single-factor dominant character. The existence of several degrees of pigmentation suggest, however, that there are other factors which determine the amount and the pattern of pigmentation.

# ON THE PROOF OF A THEOREM OF FROBENIUS WITHOUT THE USE OF GROUP CHARACTERS

by ROBERT HARRISON SHAW \*

The dissertation deals with abstract proofs of special cases of the following theorem of Frobenius:

**THEOREM.** If  $G$  is a finite group which possesses a subgroup  $H$  having the properties that  $H$  is its own normalizer in  $G$  and that  $H$  has no element except the identity element  $E$  in common with any of its conjugates, then the set  $N$  consisting of the element  $E$  and the elements of  $G$  not in the union of  $H$  and its conjugates compose an invariant subgroup of  $G$ .

Three main theorems are proved. The first is supported by five lemmas:

**LEMMA 1.** If  $G$  is a finite group and  $H$  a subgroup thereof, then the density of the double coset  $HgH$  for any  $g$  in  $G$  is  $|g^{-1}Hg \wedge H|$ .

**LEMMA 2.** If  $G$  is a Frobenius group with respect to  $H$ , then  $|G| = (f-1)|H|^2 + |H|$ , where  $f$  is the number of double cosets of  $G$  with respect to  $H$ .

**LEMMA 3.** If  $G$  is a Frobenius group with respect to  $H$ , then  $|N| = \frac{|G|}{|H|} = (f-1)|H| + 1$ .

**LEMMA 4.** If  $G$  is a Frobenius group with respect to  $H$ , then all conjugates of elements of  $N$  are elements of  $N$ .

**LEMMA 5.** If  $G$  is a Frobenius group with respect to  $H$ , then every power of any element of  $N$  is an element of  $N$ .

These lead to

**THEOREM I.** If  $G$  is a Frobenius group with respect to  $H$ , then a necessary and sufficient condition that  $N$  be an invariant subgroup of  $G$  is that every left coset of  $H$  contain exactly one element of  $N$ .

Three lemmas on the transformation of right cosets of  $H$  are then proved:

**LEMMA 6.** If  $H$  and  $K$  are two distinct subgroups of a finite group  $G$ , then no right coset of one can be a right coset of the other.

**LEMMA 7.** If  $G$  is a Frobenius group with respect to a subgroup  $H$  of odd order, then the normalizer in  $G$  of any right coset of  $H$  (except  $H$  itself) is  $E$ .

**LEMMA 8.** If  $G$  is a Frobenius group with respect to a subgroup  $H$  of odd order, then the elements of  $H$  transform every right coset of  $H$  (except  $H$  itself) into a set of  $|H|$  distinct conjugate right cosets of  $H$ .

\* A.B. 1940, Carroll College; A.M. 1941, University of Wisconsin; Ph.D. conferred February 22, 1952.

$H$ , and no elements of  $G-H$  will transform a right coset of  $H$  into a right coset of  $H$ .

These lead to

**THEOREM II.** If  $G$  is a Frobenius group with respect to a subgroup  $H$  of odd order, and if  $G$  is of order  $|H|^2 + |H|$ , then the elements of  $N$  other than  $E$  form a single conjugate class under  $G$ , and  $H$  is an invariant subgroup of  $G$ .

Another set of three lemmas introduce the final theorem:

**LEMMA 9.** If  $G$  is a Frobenius group with respect to  $H$ , then every element of  $N$  except  $E$  lies in a conjugate class under  $G$  which contains a multiple of  $|H|$  elements.

**LEMMA 10.** If  $G$  is a Frobenius group with respect to  $H$ , then every element of the normalizer of any element of  $N$  (except  $E$ ) is an element of  $N$ .

**LEMMA 11.** If  $G$  is a Frobenius group with respect to  $H$ , and if a class of conjugate elements of  $N$  under  $G$  contains  $k|H|$  elements, then

$G$  contains a subgroup, consisting of elements of  $N$ , of order  $\frac{|G|}{k|H|}$ .

As a corollary of Lemma 11, the following theorem is proved:

**THEOREM III.** If  $G$  is a Frobenius group with respect to  $H$ , and if the class of any element of  $N$  contains  $|H|$  elements, then  $N$  is an invariant subgroup of  $G$ .



## STUDIES OF CHOLESTEROL ESTERASE SYSTEMS

by LEON SWELL •

Cholesterol has been the subject of intensive study for many years. It was first discovered as a constituent of gallstones in the eighteenth century and was presumed to occur only in a pathological connection. Later investigations showed that it occurred in all tissues of the body in both the free and ester form. With the advent of accurate methods for the determination of cholesterol in tissues and fluids, and the rapid advances of chemistry, a great deal of knowledge concerning cholesterol has been unfolded.

The structure of cholesterol is that of a highly complex hydro-aromatic secondary alcohol. It is truly amazing that this substance can be synthesized by the animal body. Recent studies have shown that cholesterol possesses a wide variety of functions, i.e., it acts as a precursor of the bile acids, sex hormones, adrenal hormones, and 7-dehydrocholesterol; it serves as a transporter of fatty acids to and from the tissues, as an intimate part of the cell wall, as a neutralizing agent toward certain toxins, and as an insulating material around the myelin sheaths of nerves.

Nothing is known about the mechanism involved in the regulation of tissue cholesterol, and cholesterol absorption is meagerly understood. There are reports in the literature which indicate the occurrence in various tissues of one or more enzyme systems which catalyze the synthesis and hydrolysis of cholesterol esters. Several authors have reported a high level of such activity in the pancreas and in pancreatic juice. This enzyme has been linked to the absorption of cholesterol. Under ordinary circumstances only free cholesterol is presented to the digestive machinery, but two thirds of it appears as ester in the thoracic duct lymph. Similarly, two thirds of the cholesterol in the blood occurs in the combined form. Obviously, esterification must take place and it is in this process where the enzyme cholesterol esterase probably has an important physiological function. The observation that fat and bile are essential for cholesterol absorption further supports the view that cholesterol absorption involves esterification in the intestinal tract. The site of action of cholesterol esterase is thought to be in the lumen of the intestine.

The purposes of this thesis were to develop a method for assaying cholesterol esterase in tissues and fluids and to adequately characterize the enzyme in pancreas, dog blood, and rat intestinal mucosa. This

• B.S. 1948, College of the City of New York; M.S. 1949, The George Washington University; Ph.D. conferred February 22, 1952.

work has attempted to correlate our findings with the changes occurring in cholesterol absorption.

Substrate mixtures suitable for studying the esterifying and hydrolytic cholesterol esterase systems have been devised. The basic constituents of this mixture are cholesterol ester or cholesterol-fatty acid, bile salts, egg albumin, phosphate buffer, and merthiolate. The bile salts and phosphate buffer may be interchanged with other substances; this has allowed studies on the effect of bile salts, phosphate, and pH on the cholesterol esterase systems in tissues.

The studies on the pancreas established that this tissue contains very active cholesterol esterase systems capable of synthesizing and hydrolyzing a large number of cholesterol esters. Both systems were found to be inactivated by heating for 15 minutes at 65° C. The esterifying system required bile salts for all substrates tested, but the hydrolytic system required bile salts only for the higher esters. The optimum pH for the hydrolysis of all cholesterol esters tested was found to be at pH 6.55; the optimum for esterification was found to vary with the fatty acid component. However, with some acids the true optimum for the esterifying system could not be determined due to the inactivation of the enzyme below pH 5.

The work on serum established that of five species tested only dog serum exhibited cholesterol esterase activity; both esterifying and hydrolytic activity were present. The enzyme of dog serum was characterized and found to possess the same properties as the one previously studied in the pancreas; optimum pH, inactivation temperature, and requirement of bile salt were the same. Experiments were also conducted to characterize the reaction observed by Sperry in human and dog serum. Our findings confirm those of Sperry in that human and dog serum esterify free cholesterol.

Experiments were also carried out on rat intestinal mucosa and it was demonstrated that this tissue possesses cholesterol esterase activity. The enzyme as characterized was found to have the same properties as the pancreatic enzyme. Ninety-five per cent depancreatized rats were prepared and a marked reduction in the intestinal enzyme level was found. It is therefore suggested that the pancreas is the major or sole source of the intestinal cholesterol esterase.

## A SYSTEM OF QUALIFICATIONS ANALYSIS FOR THE ARMED FORCES

by DON CARLOS FAITH\*

The past fifty years have brought two profound changes in the nature of warfare. (1) The advent of the airplane, the tank, the truck, and the telephone during World War I, and of radio, radar, recoilless weapons, guided missiles, and atomic bombs since World War I, makes the modern fighting forces above everything else an integrated group of highly trained specialists. (2) While wars previous to the present century were fought with relatively small professional or semi-professional armies, modern wars demand the full fighting strength of the warring nations. Only as recently as the Battle of the Bulge, near the end of World War II, was our high command forced to the full realization that we were approaching exhaustion of our manpower resources.

This vastly increased size and occupational complexity of modern fighting forces, coupled with the stern necessity for ultra-rapid speed in the mobilization of manpower, resulted in many ill-considered assignments of newly inducted personnel to jobs during both World War I and World War II. These misassignments gave rise to the still popular myth that in time of war our Armed Forces assign personnel in random fashion—a myth which is far from being true.

There has been in fact for a number of years an increasing awareness, on the part of the people, the successive political administrations, and of the Armed Forces, of the necessity for economy in the utilization of personnel in time of war, and of the advantage of using scientific personnel procedures as a means of achieving such economy. This increasing awareness was first manifested in World War I by the use of intelligence tests and the initial use of some aptitude tests for job assignments. The procedures for matching men and jobs used by the Armed Forces during World War II were largely based on the experience gleaned between the wars by government, industry, and education in the areas of vocational guidance, job analysis, and personnel classification. In its turn, occupational research within the Armed Forces during World War II gave impetus to more effective methods of personnel management in other branches of government and in industry.

For a number of years, all three of the Military Departments (the Army, the Navy, and the Air Force) have been employing scientifically sound and effective personnel classification procedures: procedures which undertake to discover the kinds and amounts of occupationally significant

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cant characteristics of each newly joined member. Through the use of tests developed for this specific purpose by highly competent professional psychologists and interviews by carefully trained technicians supervised by competent psychologists, each recruit is studied as an individual with a view to his efficient assignment after basic training, either to further specialized training or directly to a job.

For a number of years, all three Military Departments have also been employing the procedures of job analysis, a technique brought to fruition by the United States Employment Service, which involves the study of jobs by trained technicians and results in job descriptions. These job descriptions are primarily stated in terms of the nature of the tasks involved in performing the job, and only secondarily, if at all, in terms of the characteristics of a desirable worker. Where the job description does contain a list of "worker characteristics" it is not the usual practice of orthodox job analysis to define each worker characteristic or to attempt to discover and set forth how much of each such characteristic is necessary to give reasonable assurance of success on the job.

Thus, at the present time in the Armed Forces, the process of matching men and jobs is a somewhat unbalanced one of matching a man, whose occupationally significant characteristics have been rather carefully defined and scientifically measured, with a job the nature of which is stated in very general terms and usually not stated quantitatively at all. It appears reasonable to believe that the process would be a more effective one if it were possible to describe jobs in terms of characteristics specifically defined, and in terms of measures of amount, identical with terms to be used in describing men. It is precisely this that qualifications analysis undertakes to do. Qualifications analysis is defined as that technique of employee evaluation for collecting, analyzing, appraising, and reporting data concerning the necessary kinds and critical levels of the aptitudes and abilities required for adequate performance of the duties of a given job.

The concept of qualifications analysis is by no means a new one. The job psychographic method developed by Viteles and explained by him in 1932 proposes procedures for matching men and jobs which differ only in detail and not in basic concept from the procedures of qualifications analysis. The work of the United States Employment Service of the Department of Labor in developing its *General Aptitude Test Battery* and the accompanying *Occupational Aptitude Patterns*, and its more recent work in developing a functional occupational classification structure, provide important contributions to solving the problem of matching men and jobs, closely related to but not identical with qualifications analysis. The Department of Defense initiated preliminary explora-

tions into the problem of qualifications analysis in 1951 and 1952 as a part of a larger project investigating the whole area of military occupational structure and procedures. This investigation is no longer in process, but it is believed it will be continued at a later time.

The purposes of this study are to review the literature relative to occupationally significant characteristics of successful workers, recommend an initial list of such characteristics as the basis of an experimental approach to qualifications analysis within the Armed Forces, investigate methods of measuring each characteristic, and recommend initial organization and initial procedures for the implementation of such an experimental approach.

The ideal approach to the problem of matching men and jobs in the Armed Forces would involve strict adherence from the beginning to scientific methodology, statistical computational procedures, and completely objective quantification. This ideal might possibly be achieved through the involved procedures of giving a very comprehensive battery of tests to a very large number of recruits at the time of their entry into service and prior to their entry into training or into jobs, establishing valid criteria of success on each job, waiting a sufficient period of time for each recruit who had thus been tested to demonstrate his success or failure on the job to which he had been randomly assigned, and thus determining what cut-off scores on what tests were predictive of success on that job. However, such a procedure would be most wasteful of personnel, since the results could not be considered to be very highly valid if the personnel were not actually assigned jobs in random fashion; that is, without any consideration of the recruit's fitness for the job or even of his desire for or objection to such assignment. Moreover, such a procedure would almost certainly require approximately ten years to be completed. It is the contention of the present writer that the Armed Forces cannot afford to wait ten years for a scientifically validated procedure if procedures better than those now in use can be put into effect in the meantime. For this reason, while the system of qualifications analysis advocated in this study contemplates the eventual realization of the scientifically validated procedures described as ideal, it proposes interim procedures based on the pooled judgment of experts and on rating scale methods where valid tests are not as yet available.

The term *qualification*, as used in this study, is defined as a complex behavior pattern required of an individual for him to be successful on a specific job. One of the purposes of this study, stated above, is the recommendation of an initial list of such qualifications as a basis of an experimental approach to the development of a system of qualifications analysis for the Armed Forces. The process of selection has been a subjective one, based on a review of the literature and on the



writer's familiarity with the occupational structure of the Military Departments.

The following criteria are considered applicable to the selection of qualifications for the initial list: their number must be large enough to describe and differentiate Armed Forces jobs, yet small enough to be administratively practicable; this number is estimated to lie between fifty and one hundred. They must be meaningful, that is to say, susceptible of precise definition, subject to the same interpretation by job analysts and psychometrists alike. They must be susceptible of eventual measurement, but may be included even though there is at present no known method for measuring them. They must be critical, that is to say, each of them must be of such a nature as to be necessary in measurable amount to success on a specific job.

For administrative reasons it is considered desirable to categorize the qualifications selected for the initial list. A review of the literature indicates that qualifications of this nature have usually been categorized, but that little agreement exists as to the specific categories used. In view of this situation, the arbitrary decision was made to use the following categories: intelligence qualifications, physiological qualifications, aptitudes, knowledges and skills, personality qualifications, and interests. The questionability of the inclusion of knowledges and skills as a category, in view of the criterion of criticality, is admitted; the decision to include this category is based on practical administrative considerations which maintain within Armed Forces procedures rather than upon theoretical ones.

Incidental to a review of intelligence testing, no effort was made to decide on the general merits of a single index of intelligence as against multiple indexes. For purposes of qualifications analysis, it appears to be highly desirable to use multiple indexes, since many jobs exist which demand a high order of one type of intelligence while requiring a much lower level of other types. The selection of intelligence qualifications was considerably affected by the results of factorial analyses, particularly those of Thurstone and of Guilford and Zimmerman. The qualifications selected are reasoning, judgment, planning, verbal intelligence, memory, number, space, and perception. The list results from beginning with Thurstone's list of "primary mental abilities", combining the two word factors into a single qualification, slightly broadening the concept of induction into reasoning, and adding judgment and planning, not included in Thurstone's list, but considered highly relevant to military jobs.

For ease of treatment, particularly with reference to their measurement and the relative significance of methods of measurement, physiological qualifications are discussed under four sub-headings: physical de-



mands, body characteristics, sensory qualifications, and motor qualifications. The following qualifications are recommended for the initial list: under *physical demands*: lifting, carrying, walking, running, and climbing; under *body characteristics*: age, sex, height, weight, length of arm, and span; under *sensory qualifications*: visual acuity, depth perception, dark adaptation, color vision, auditory acuity, and equilibrium; under *motor qualifications*: reaction time, steadiness, muscular strength, dexterity, and handedness.

Under a consideration of aptitudes, the utilization of general aptitude test batteries is rejected as not applicable to qualifications analysis, although they represent a long forward step in matching men and jobs. It is believed that batteries designed for testing aptitudes for specific occupations and in current use in government and industry should be carefully examined by qualifications analysts in their study of jobs to which such batteries may be applicable, but the initial inclusion of such batteries in the system of qualifications analysis under study is not advocated. Two special aptitudes, clerical aptitude and mechanical aptitude are recommended for inclusion on the initial list, although it is believed that they will eventually be superseded by less complex qualifications.

Knowledges and skills which will at times need to be listed in a record of the qualifications analysis of a job include general education, specific knowledges such as that represented by a Master's degree in physics, specific skills such as the ability to type at so many words per minute, and general skills such as that exemplified by three years' experience as a journeyman machinist.

Personality qualifications recommended for the initial list are sociality, emotional stability, dominance, optimism, sensitivity, and energy. No known satisfactory method of measuring these or similar personality qualifications is available. Inclusion of these factors despite this defect is advocated, partly by reason of the writer's conviction of their importance, partly in the hope that such a position may stimulate research into valid methods of measuring them. An alternative procedure, now under consideration in the United States Employment Service, or reporting personality characteristics demanded by jobs in terms of special job conditions is discussed but not recommended.

The selection of interest qualifications for Armed Forces jobs presents a special problem toward the solution of which past research on civilian jobs does not provide adequate guidance. An Army instrument for measuring vocational choice has been abandoned, presumably because it could not be shown to have sufficient validity to warrant its use. The importance of job interest is commonly conceded. For these reasons it appears undesirable to recommend specific interest qualifications for

the initial list. It is recommended that the initial research necessary to establish interest qualifications follow the approach of the Kuder Preference Record and take full advantage of all data obtainable from the Army's experience with the Army Activities Preference Blank.

It is considered essential to the success of any organization established to develop and eventually to implement, but probably not to operate, a system of qualifications analysis for the Armed Forces that it be set up within the Department of Defense itself rather than in one or more of the Military Departments, and that it be established at very high level, probably directly under the Assistant Secretary of Defense for Personnel. The director of the organization should be a civilian and a professional psychologist of established reputation. His immediate assistants should be military officers of high rank from each of the Military Departments. The organization should consist of a central headquarters and a varying number of field teams. The directorate should include a consultants' panel of psychologists and an advisory board of high level policy officers from each of the Military Departments. In addition to the directorate, the central headquarters should consist of a research section, an operations and planning section, and a field section. Each section should be composed of professional psychologists and of uniformed personnel and personnel technicians from each of the Military Departments. Field teams should be composed of experienced job analysts specially trained in the methods of qualifications analysis, and the chief of each team should have at least a Master's degree in psychology.

Procedures at central headquarters level include the publication and subsequent expansion of the directive for the project, the selection of personnel for the project, the indoctrination and training of personnel, the preparation of a handbook, the development and frequent revision of field operations, and the development of a comprehensive research program.

Field procedures are based on the proved practices of job analysis, but lay primary emphasis on the determination and measurement of qualifications rather than on a description of component tasks of the job. The determination of the critical qualifications of a job under study will initially be a subjective one, resulting from the pooled judgments of the analysts of the team. Certain physiological qualifications can probably be measured directly as a part of the initial field study. Where the qualification is one susceptible of measurement at present, it will be measured by a test measurement team which will follow the qualifications analysis team at a later date. Where a qualification critical to the job under study is not measurable by test, the analysts will determine the amount required by rating scale procedures.

Some qualifications will be measurable by absolute scales, while most must be measured by relative scales. The *stanine*, a standard score used by the Army Air Forces in World War II, is recommended as the relative measure for initial use. Qualifications will be measured initially, and probably throughout, in terms of the amount required and not in terms of their importance to the job. It will be highly desirable, and probably essential, to establish a hierarchy of jobs in terms of the maximum number of qualifications permitted to describe them. The following tentative hierarchy is suggested: *level one*, comprising probably the simplest and least important third of all jobs, to be described in terms only of minimum admission standards; *level two*, comprising approximately the middle half of all jobs, to be described in terms of not more than five qualifications; *level three*, comprising almost all of the top sixth of all jobs, to be described in terms of not more than seven qualifications; and *level four*, consisting of probably less than one hundred very important complex jobs which require unlimited description.

The system of qualifications analysis advocated in this study can be initiated within six months of a decision to inaugurate it. It can provide, within two years after it has been started, procedures which, although rather subjective in nature, will be distinctly preferable to the procedures now in use. It can be developed into a scientifically valid whole within ten years after its inauguration.



## NORTH AMERICAN COPEPODS BELONGING TO THE FAMILY NOTODELPHYIDAE

by PAUL LOUIS ILLG\*

The notodelphyid copepods are inhabitants of the body cavities of ascidians. Correlated with this specialized mode of existence is the elaborate series of structural modifications displayed within the group. Preservation of fundamental characteristics, in spite of a high degree of such adaptive radiation, renders the group a well-defined natural unit. They are poorly known, however, over the greatest extent of their occurrence, and information concerning North American representatives is particularly meager. A total of twelve scientific papers represents the published record of the occurrence of these copepods in North America, and these include mention of at most ten species. The present study has produced records of twenty-three species, of which fourteen are herein described as new to science. A survey of the world literature on the group, coupled with this study, has brought forth information which has necessitated the proposal of four new genera to accommodate the species here treated, which then are included in a total of eleven genera.

New findings of zoogeographic interest include the rediscovery of a typical arctic species, unreported since its original description, here found in collections ranging from Point Barrow, Alaska, to the Gulf of Maine and to the north coast of Siberia. Still another instance is the establishment of the occurrence of a long-known Mediterranean species in considerable numbers along the gulf coast of Florida. A large number of species seems to be entirely restricted to North America, but such findings as the above leave reason to assume that some of these species will be found to have wide distributions. The almost cosmopolitan species, *Doropygus pulex* Thorell, has been found only on the east coast of North America. Only six typically European species have so far been found in the American fauna.

A number of the species described here have been found to be strictly host specific. Still others are widely tolerant, one species having been recorded from no less than seven hosts. Most of the specimens have been obtained by dredging, since none seems to be of common occurrence in intertidal situations. The record depth of collection of one of these copepods is here recorded, 1100 fathoms, off southern California. The great preponderance of findings of notodelphyids made so far has come from well above the 100-meter level.

In the course of assembling material for the present study, the most

\* A.B. 1936, A.M. 1941, University of California; Ph.D. conferred May 28, 1952.

extensive bibliography on the notodelphyids thus far compiled was brought together. As a result of studying the records thus obtained, the first attempt at presenting the complete synonymies of all the known genera and species has been set forth. The necessity of proposing new genera to recognize the new information concerning the anatomy of the group brought forth from the study has led to the formation of six new combinations as nomenclatural concepts. Most of the reallocations of species have involved those originally proposed in the genus *Doropygus*, which, by combining the work of Sars in 1921 and the present study, has been finally subdivided into four genera.

The notodelphyids present an instance among the copepods in which there seems to be demonstrable a fairly clear-cut pattern of derivation of parasitic existence from a major group of free-living antecedents. Such origin, of course, has repeatedly been hypothesized for all the major symbiotic stocks, but here is found a markedly clear-cut body of evidence. Not only are there strong lines of evidence, but a most remarkably diversified pattern of development of degrees of symbiotic specialization is available, ranging from the most elementary and innocuous grade of commensalism to extreme parasitic dependence. A parallel array of anatomical specializations may be demonstrated.

The notodelphyids are most frequently restricted to the branchial cavities of the tunicates they inhabit. The members of this group show the least modification of appendages, and probably implications with regard to feeding habits might be drawn. Evidently the food supply of the tunicate is directly shared, although there is no actual record available of the food of the notodelphyids. Representatives with most degenerated appendages come from more specialized habitats. One genus has been taken from the common cloaca of the systems of zooids of a compound ascidian. The mouthparts are so reduced in this genus that it is doubtful if the animal could ingest particulate matter. Other genera occupy such specialized sites as cyst-like cavities in the matrix of compound tunicates, cysts under the tunic of solitary ascidians, or with only the head encysted in the mesenchymal tissue of the host. The ultimate location in this line of parasitic adaptation is in cysts enveloped within the ventral blood vessel of representatives of two genera of solitary tunicates.

The question of the mode of penetration of these specialized symbionts to their ultimate sites within the hosts is still a completely unanswered one. In fact, the sequence of developmental events and possible metamorphoses in the life histories of these ascidicoles is almost entirely unknown.

The general body form of the notodelphyids is basically that of the cyclopids, among the best-known of free-living copepods. The form



is a greater or less variation of a fundamentally segmented tubular body. Two principal modes of elaboration of this basis appear. One series of genera is depressed in habitus, exemplified by the type of the group, *Notodelphys*. The alternative habit is such compression as is seen in the widespread genus *Doropygus*. The body is variously segmented, including always in the female the modification produced by the expansion of one or more somites to accommodate the enlarged internal incubatory cavity.

The rostrum is a constant feature among the diverse array of notodelphyids. In its basic form it is an inflated cone, with little or no tendency to ornamentation.

The antennule varies from the generalized, many-segmented type like that of the most primitive cyclopoids to the bimerous or monomeric stumps of the parasites. The antenna is uniramous, a basically trimerous appendage, with relatively sparse ornamentation. The terminal armature is invariably a stout clawed articulated hook.

The development of a labrum is an almost unexceptional feature of the group. Sufficiently representative occurrences are known of the presence of paragnaths to conclude that these structures, also, are fundamentally present in notodelphyids.

Great conformity of the mouthparts is found throughout the group, except that in the parasitically degenerated extremes the homologies of these appendages are obscured. The typical mandible consists of a medially expanded basal segment and a variously ornamented palp. The maxillule consists of a masticatory basal portion, with a biramous palp. The maxilla is basically pentamerous and uniramous. A very distinctive armature of medially inserted setae constitutes its principal functional component. The maxilliped is reduced, varying from trimerous to monomeric, with relatively few elements of armature differentiated.

The four pairs of swimming legs are variations upon a fundamentally cyclopoid type, bearing out the probable derivation of the group from such a free-swimming assemblage. The basic pattern consists of bimerous protopodites, yoked together by an intercoxal lamella, and bearing trimerous rami, the exopodite and endopodite. The armature consists of various differentiated setae and spines. In the advanced parasites, the legs may be reduced to unornamented stumps.

The fifth legs are vestigial, as is typical of all the cyclopoids. The appendage is basically a uniramous, bimerous one. The ornamentation consists at most of one to few weakly developed setae or spines. In many lines of descent within the group the fifth legs are obsolete to lacking.

A major anatomical problem in considerations upon the notodelphyids is in the description of the tagmosis, or arrangement of major body



regions. In the copepods as a whole, there is a major dichotomy in this feature. This fact, coupled with attempts to reconcile copepod structure with that of other major crustacean and arthropod groups have led to great ambiguity in terms of reference to these regions. The basic disposition of the somites in copepods forms two major body regions, with an additional readily determined subdivision. There is a profound articulation between an anterior major mass, bearing the head structures and the swimming legs, and a posterior sector with appendages insignificant to lacking. The alternatives of arrangement of articulation delimit two principal sections of the copepods, the *Gymnoplea*, in which no limbs are borne on the posterior sector, and the *Podoplea*, which have a posterior sector bearing a pair or two of rudimentary limbs.

The posterior sector has been called abdomen, urosome, hind-body, and such similar noncommittal terms. The reasons for such equivocations lie in the fact that the articulation concerned does not have an exact counterpart in any other major crustacean groups. The hind-body in the copepods undoubtedly has two major anatomical components. In the *podopleans* the first two somites are pedigerous. The second of these, further, is characterized by possession of the reproductive apertures. The conformity thus of these somites to the posterior thoracic segments of the majority of crustaceans is apparent.

In the *gymnopleans* the body articulation occurs one segment posterior to the position found in *podopleans*. The first segment of the *gymnoplean* hind-body, although not pedigerous, includes the genital apertures. A thoracic series, plus an abdominal series of somites, thus would be seen to characterize the hind-body throughout the *Copepoda*. A further complication of structure in the urosome is a general trait. The segment of the genital orifices usually fuses with the succeeding somite to form a compound metamere, usually exhibiting some expansion and often other elaboration. The participant elements in this complex then would seem to be one anatomically thoracic somite and one anatomically abdominal somite. However, among the *notodelphyids*, an important exception occurs. In a considerable number of the more generalized genera, the somites of the urosome retain their anatomical individuality.

The most fundamental plan of segmentation of the body in the *Notodelphyidae* is exhibited in the males. Here the major body articulation is *podoplean*. The main mass of the trunk is *cephalothoracic*, and bears most of the appendages, including the fourth swimming legs. This metasomal assembly is basically five-segmented with the segments diverse. The urosome, posterior to the major hinge of the body, comprises two thoracic segments and four abdominal segments (to include the telson, or perianal segment). The first urosomal

segment is the fifth free thoracic segment, or the sixth limb-bearing segment attributable to the thoracic series. It bears the fifth legs. The second urosomal segment, attributed by convention to the thorax, is characterized by possession of the paired reproductive apertures. These, and the segment itself, are complicated in structure by the presence of the reproductive structures.

The females of most genera of notodelphyids, in which parasitic degeneration does not obscure the basic features of segmentation, in the main conform to this podoplean plan, but there are notable exceptions. The females of *Notodelphys*, and some near allies, are organized in a pattern conforming to the gymnoplean arrangement. In these the bulk of the mid-body is an expanded segment, which, besides accommodating the incubatory cavity, supports the fourth and fifth legs. In these the urosome has no thoracic appendages. In the most primitive grade of anatomy the urosome is composed of five segments, none pedigerous. The first, which bears the oviducal apertures, is accordingly considered to be the seventh and last thoracic somite. The remaining four segments are abdominal. This arrangement of urosome is also found in more conforming representatives, such as *Doropygus*. Here, however, still a further modification is involved in that the segment of the fifth leg is also included in the urosome.

It becomes obvious, then, that the mechanics of the major body articulation are complicated by the combination of effects produced by the inflation of the body to accommodate the brood sack, with, in addition, either compression or depression of the body markedly developed. As a result, the tagmosis in representatives of the one family presents a graduated series of arrangements that cut across the major subdivision in this feature, which has long held as a differentiating characteristic in dichotomous arrangements of copepod classification.

Although they did not describe the situation aptly, early workers were aware of a major difference in tagmosis of the female notodelphyids. Accordingly, a differentiation became adopted, assigning representatives to the families Notodelphyidae and Doropygidae. However, upon close analysis, the actual facts of the tagmosis are almost the contrary of the suppositions upon which this subdivision was based. In the present study, then, the notodelphyid series is considered as a consistently inclusive one, with the only basis for a further separation the reduction of mouthparts found in the most advanced parasites.

In 1949, K. Lang described a new family of copepods, the Archinotodelphyidae, to include some very primitively constructed ascidicolous copepods. These would, basically, require only the anatomical modification of provision of an internal brood sack to accommodate within the familial definition the series of genera herein assigned to the Noto-



delphyidae. They thus possess points of structure which strongly indicate that they may be a remnant of the archetypical stock which gave rise to the notodelphyids.

Further, the inclusion of the archinotodelphyids within the family Cyclopinidae, a long-known group of free-living cyclopoids, would be consequent upon a simple transformation of the antenna. The terminal armature of the cyclopinid antenna is a cluster of setae. In the archinotodelphyids (and in the notodelphyids) one member in this armature is differentiated as a much enlarged, stout, tapered, curved hook, which converts the appendage into an effectively prehensile member.

The demonstration of the cyclopinid-notodelphyid phylogenetic series has led to the abandonment of the traditional usage, introduced by Sars, in 1921, which considers the majority of ascidicolous copepods as a suborder, the Notodelphyoida. The Notodelphyidae, Lang shows, are directly assignable to the cyclopinid stock within the Cyclopoida. Other ascidicolous families also show cyclopinid affinities, but not so obviously. One family among them Lang has considered to have affinity with a somewhat more remotely related cyclopoid series, the poecilostomes, so that the suborder of former usage is clearly shown to have been polyphyletic.

The classification of the notodelphyid ascidicoles then has resolved as a problem in practicality. There are good grounds for joining together the families Cyclopinidae, Archinotodelphyidae, and Notodelphyidae, since the diagnostic distinctions between each two adjacent families are so minor, as pointed out above. If this combination were adopted, the problem of naming the assemblage would present difficulties. The name Notodelphyidae was used so early as a familial concept that it ought to deserve a weighty claim on grounds of mere priority. However, the disadvantage of applying the name is that the very phylogenetic trend which conveys biological significance to the grouping is thereby obscured. To preserve the phylogenetic considerations it would further be advisable to retain the separate categories at subfamilial level. This outcome, it seems obvious, offers so little gain over the treatment of the groups as separate families, that this latter alternative is here accepted.

At the generic level it was found that these same anatomical considerations could be applied to the resolving of long-standing taxonomic difficulties. The formerly widely inclusive genus *Doropygus* was found to be susceptible to subdivision. Sars, in 1921, had initiated the process by proposing the genera *Doropygella* and *Doropygopsis*, both monotypic. It was found that slight emendations of these generic concepts could provide for the accommodation of still other species, some known at the time of Sars, some proposed since, all originally in the older genus. A further corollary finding was the necessity for proposing a new genus



closely allied, which includes three species formerly considered as belonging in *Doropygus*. The restricted concept here proposed for *Doropygus* includes seven formerly known species, and seven new species have been added to the genus from the American fauna.

The classic genus *Notodelphys* has not been altered in concept in the present treatment. One new American species has been added.

## FUTURES TRADING CONSIDERED AS AN ASPECT OF MONETARY THEORY

by JOHN WALLACE McCALLEY \*

The purpose of this dissertation is to show the relationship between commodity futures trading and the creation, exchange, and extinction of credit items in order to test the hypothesis that an adequate explanation of the nature and significance of futures trading must necessarily comprehend monetary theory. An additional aim is to determine whether practical policy suggestions may be derived from this analysis of futures trading.

Conventional (non-monetary) concepts of futures trading can be shown to be inadequate, if not actually misleading and erroneous, in their evaluations of futures trading. Moreover, inadequate conventional approaches to futures trading have led to questionable policies designed to regulate or control such activity in the public interest.

Conventional concepts of futures trading tend to fall into two broad categories: those advanced by economists and those advanced by members of trades that employ futures contracts in the conduct of their enterprises. Economists, by and large, have approached futures trading as if it were an aspect of speculation and have treated speculation as a special aspect of competitive pricing. Non-economists, who engage in futures trading, have tended to rationalize futures trading as an "insurance" mechanism designed either to reduce the risk of fluctuating prices or to shift such risks to specialists willing to assume risks. Neither approach has yielded a consistent and satisfactory explanation of the institution as it exists today in the commodity markets of the United States. Futures trading has also been considered by some laymen to be nothing more than an institution to facilitate gambling and an activity wholly detrimental to morals and especially detrimental to the interests of farmers and consumers. This concept of futures trading will not be given consideration in this dissertation since it involves normative rather than economic issues.

The economists' approach to futures trading assumes that speculators, who buy or sell contracts to realize a gain from changes in prices over time, form only a small segment of any market and that they tend to buy when prices are low and sell when prices are high. It is assumed that speculators trade toward an equilibrium price. If this is true, then speculation tends to reduce the magnitude of price fluctuations and tends to cause resources to be allocated in a more optimum fashion than they otherwise would be. Thus speculators, in correctly anticipating an

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equilibrium price, will cause goods to be stored when prices are too low and will cause goods to be sold when prices are too high.

The validity of the economists' position rests upon the correctness of three implicit assumptions: (1) that the market is purely competitive, (2) that speculators can influence the magnitude of price changes but not the direction of price changes, and (3) that speculators as a group possess foresight superior to other participants in the market. Fundamentally, all three assumptions are derived from the basic assumption of a purely competitive market and its corollary that unsuccessful speculators will be eliminated from the market.

It can be shown that none of these assumptions is warranted in an analysis of actual futures markets. Actual markets are characterized by a certain amount of concentration and monopoly, and speculators frequently represent the largest group of participants in futures markets both numerically and in terms of the volume of transactions. Hence, speculators' actions may determine the direction of price changes. Moreover, there is no *a priori* reason to believe that speculators as a group possess above average foresight or that unsuccessful speculators will be eliminated from market participation.

The validity of the viewpoint of trade members rests upon a concept of futures trading restricted to a single set of transactions as related to an individual enterpriser and does not comprehend the nature of the over-all institution. While it is true that an individual may employ the futures market to effect an offset transaction and thus hedge a position he may have assumed in commodities, such futures transactions do not necessarily provide insurance against price changes. Moreover, it is not even possible in many cases to distinguish between speculative and hedging transactions.

To assert that any given set of transactions (one transaction in actual commodities and the other in futures contracts) is a hedge implies that (1) the single pair of transactions may be identified and considered apart from any other transactions that the enterpriser may have effected, (2) that price movements in the market for physical goods and price movements in the market for futures contracts will be identical in magnitude and direction, and (3) that risk is objective and capable of being shifted from one individual (the hedger) to another individual (the speculator).

It can be shown that the assumptions implied in the argument that futures trading is a means of insuring against price risks are also unwarranted. There is no *a priori* reason to believe that any particular transaction in the futures market is in fact an offsetting transaction to a transaction in physical goods. Even though an enterpriser may initially intend that a transaction might be a hedge, his intentions may change



over time and the transaction, upon extinction, may have actually become speculative. Secondly, price movements in the market for physical goods and in the market for futures contracts need not be (and often are not) identical; sometimes they may even move in opposite directions. Therefore, the set of transactions deemed to be offsetting in character may actually result in greater losses than would have resulted had no "hedge" transaction been undertaken. Finally, it must be pointed out that risk is subjective rather than objective. It is possible to demonstrate that any particular transaction in the futures market may either increase or decrease the over-all risk for either party to the transaction; it cannot be assumed that one individual's risk is decreased and the other individual's risk is increased by the same amount or even that the futures transaction will result in opposite increments of risk for the two parties to the transaction. In addition, emphasis on the "insurance" function of futures trading often tends to create a disregard for the effect of such trading on prices and hence a disregard for the economic problem of resource allocation. It tends to cause the institution of futures trading to be analyzed from the standpoint of an individual's special interests rather than from the standpoint of its role in the economy.

The evaluation of futures trading resulting from the economists' conventional approach is that futures trading always tends to be a beneficial activity since it tends to stabilize prices and bring about a more optimum allocation of scarce resources. The evaluation of futures trading resulting from the conventional approach of trade members is that speculative trading in futures is a "necessary evil" to be tolerated because such trade provides "insurance" for legitimate business. The two conventional approaches are not only deficient in themselves but they are in some instances inconsistent with each other. The deficiencies of conventional approaches to a study of futures trading suggest that a more rewarding analysis consistent with market realities might be cast in a new frame of reference.

An analysis of the origin and development of commodity futures markets reveals that actual futures markets have never exhibited the characteristics which would tend to substantiate the conventional analytical approaches. The origin of futures trading, though somewhat obscure because of the lack of records, lies in a period of rapid economic change and expansion during the nineteenth century. There is every reason to believe that futures trading developed as much out of a desire to speculate, even to gamble, as it did out of a desire on the part of enterprisers to reduce the risks of enterprise, especially since there existed little commercial need of futures trading under the merchandising methods commonly employed before the last quarter of the nineteenth century.

The most important area of futures trading in the past century was grains. Futures trading came to be an important part of the market mechanism for grains only after rather special circumstances in the grain trade made futures trading of particular value to one segment of the trade, viz., terminal elevator operators. The special circumstances were associated primarily with the attempts of terminal elevator operators to maintain a position of market dominance after the passage of the Interstate Commerce Act. The Interstate Commerce Act caused terminal elevators to lose their partial monopoly of the grain trade which had depended for its existence on a transportation monopoly coupled with the storage operations of elevators in terminal markets. In order to maintain their position in the grain trade after 1887, terminal elevators changed their principal enterprise from storage for the account of others to grain merchandising. In order to become dealers in grain on a large scale it was necessary for elevator operators to take over a large part of the merchandising operations which were being carried out by consignment merchants.

Terminal elevator grain dealers maintained their monopoly position by carrying out merchandising operations. This was accomplished in large part by buying grain directly from country points and by over-bidding and under-selling consignment merchants. Such direct buying and selling was often carried out secretly, and price advantages were made possible because of, among other things, joint enterprise operations plus the use of the futures market. Concurrent with the rapid growth of the elevator operators as grain merchandisers, who made large and frequent transactions in the futures market, the futures market came to be closely related to cash transactions and it then provided potentialities for hedging transactions.

Neither the Chicago Board of Trade nor the state and federal governments have succeeded in effectively mitigating the market monopoly held by a few terminal elevators. Terminal elevator dealers are in a position of special advantage regarding the futures market since commodities deliverable on futures contracts may be partially controlled by terminal elevators. Hence they are at times in a position to manipulate prices to their own advantage or to collaborate with other manipulators. The grain market is not characterized by the competitive conditions visualized by economists who have advanced conventional analyses. Neither has futures trading "evolved naturally" out of the requirements of merchants and processors for "insurance" against price risks. If futures trading were only a means of insuring against price risks it is reasonable to expect the institution to be a part of the merchandising scheme of many more commodities than it is and that it would have developed on, e. g., the exchanges of London.



In order to suggest a new frame of reference for the analysis of futures trading it is first necessary to delineate the modern theory of competitive speculation. This will suggest the nature of the problems yet to be investigated in order that a more satisfactory analysis of futures trading may be undertaken.

The modern theory of competitive speculation, as developed by Abba P. Lerner in the United States and J. E. Meade in England, demonstrates that speculative buying and selling of goods always tends to be beneficial to the economy provided the welfare of the speculator himself is disregarded. This is true even though speculation may be excessive, perverse, or deficient. Speculation is only detrimental to the economy if it is aggressive or monopolistic in character. There is a tendency for analysts of futures trading to assume that the theory of competitive speculation is pertinent and applicable to futures trading as it actually exists in the commodity markets of the United States.

The theory of competitive speculation is applicable to futures trading, however, only (1) if the market is actually characterized by a high degree of competition, (2) if speculation in physical goods is identical to speculation in futures contracts, and (3) if it is possible or reasonable to segregate speculators from non-speculators. It has been indicated that the grain markets are not characterized by a high degree of competition. It remains to determine (1) the characteristics of future contracts and the speculation therein, (2) the possibility of segregating speculators from non-speculators, and (3) the nature of the monopolistic or manipulative activity in futures markets. It is expected that an analysis of these aspects of futures markets will tend to yield suggestions as to the economic significance of futures trading in the economy.

The technique employed to analyze the nature of the futures contract is to determine the kinds of asset-liability positions created by the exchange of futures contracts. This balance sheet approach, which hitherto has been confined almost exclusively to banking theory except for its extension to general theory by Kenneth E. Boulding in 1950, has been employed because it facilitates an analysis of the creation and exchange of assets and because it is desired that the analysis concentrate on the economic rather than the legal characteristics of futures contracts. A distinction is made between titles to physical goods and certificates of debt which are characteristically contracts between individuals. Such debts are obligations for one party to a transaction and, at the same time, claims or credit items for the other party. Futures transactions, like all transactions in claims, result in the creation of credit. Two levels of credit creation may be distinguished, and they are called simple credit and duo-credit. The former represents those



transactions, such as the lending of either money or goods, wherein an asset is transferred from one individual to another, and the recipient of the asset assumes an obligation or liability. In such cases one party to the transaction experiences a substitution of assets, and the other party experiences an increase in both assets and liabilities.

Transactions in futures, however, are characteristically duo-credit transactions. Both parties to the transaction experience increased assets and increased liabilities. The buyer of a futures contract increases his assets by the claim on commodities and his liabilities by his obligation to pay for the commodities upon delivery. The seller of the futures contract increases his assets by the account receivable for the sale of the contract and his liabilities by his obligation to deliver commodities on his contract. Another case of duo-credit transaction common to the economy is the commercial bank deposit transaction wherein upon the creation of bank deposits, the assets and liabilities of both the bank and its customer are simultaneously increased.

In distinction to simple credit creation, the general characteristics of duo-credit creation are: (1) The two parties to any duo-credit transaction necessarily have diametrically opposite asset-liability positions. Thus the gains of one party from changes in the price of either commodities or contracts for commodities are always equal to the losses of the other party, and each party expects or anticipates an opposite movement in prices. (2) Assets and liabilities may be created without necessarily any correspondence to the existence of goods or money available to extinguish the obligations when they fall due. (3) The creation of such credit is usually contingent upon some institutional arrangement whereby contracts can be offset against each other (or cleared) without resorting to the carrying out of the stipulations of the contract itself, e.g., the delivery of money on commercial bank deposits or the delivery of commodities on futures contracts. Just as partial reserve banking depends upon all deposits not being paid off in cash at any given time, *a fortiori* futures trading, where reserves may be nonexistent or at best uncertain, depends upon not all the traders demanding delivery at any one time. When a large portion of those holding futures contracts demand delivery of actual commodities the situation created is not unlike a run on a bank. Unlike bank deposits, futures contracts all fall due within a short period of time. While organized commodity exchanges provide for the extinction of futures contracts by the payment of cash, only inadequate provisions are made for the extinction of contracts by the delivery of goods. Moreover, it is common for the volume of contracts outstanding to far exceed deliverable supplies thus making the delivery of physical commodities on all futures contracts an impossibility.

Because of the nature of the asset-liability positions created by futures transactions and because it is impossible to assume the existence of other assets or liabilities in the account of the speculator, it would appear that any distinction between speculators and hedgers is unwarranted. The significance of futures trading (i.e., the creation of credit) must be analyzed from the standpoint of its effect on prices and the allocation of resources over time.

The economic significance of duo-credit creation, such as bank deposits or futures contracts, usually manifests itself in the rate of interest. Money is a subtle device for linking the present to the future, and the price of money, interest, is the indicator of this link. Just as bank deposits may be considered money, futures contracts may be considered commodity money or currency, and the difference between spot prices for commodities and forward prices for commodities represents the commodity rate of interest (if the money rate of interest is taken into consideration). The determination of the economic significance of futures trading involves, then, primarily a consideration of its effect on the commodity rate of interest and, in addition, the relationship between speculation in goods and speculation in claims for goods.

It can be shown that the relationship between spot and forward prices depends upon the elasticity of speculative stocks. The elasticity of speculative stocks depends upon the elasticity of the marginal money rate of interest, the marginal net carrying cost of commodities, the marginal risk premium, and the marginal liquidity premium. It is demonstrated that there is a direct relationship between spot and forward prices only when the elasticity of speculative stocks is infinite and that there is no relationship between spot and forward prices when speculative stocks are completely inelastic. Hence, the contradictory assertions, to be found in conventional analyses of futures trading, that the futures market is a fictitious market or, contrarywise, that the cash market and the futures market are parts of the same market where prices in the two markets are separated only by "imperfections" are both true. However, both conditions merely represent opposite and extreme positions in an array of possible situations.

It can also be shown that speculation in claims need not be identical to speculation in physical goods. Contracts tend to serve somewhat different purposes than goods themselves. Specifically, claims or contracts are more liquid than the specified goods. If claims were not more liquid they probably would not be created. Fundamentally, claims serve a monetary function that is not easily served by actual physical commodities. Since neither the supply nor the demand for futures contracts is identical to the supply or demand for physical goods.



there is no reason to believe that there should be a price identity between claims and goods even at the same point in time.

The conclusion derived from this theoretical analysis is contrary to the one derived from conventional analyses. Conventional analyses usually conclude that the optimum relationship between the price of futures contracts and the price of cash goods at the same point in time should be one of identity. Any deviation from this identical relationship is deemed to be due to market imperfections. Hence the correct economic policy for the achievement of optimum market conditions should aim at removing such imperfections. Little if any attention is given to the structure of prices over time since it is assumed that they merely reflect the relationship between present and future market forces as determined in a competitive market. The conclusion derived from the theoretical analysis of this dissertation is that there is no necessary relationship between spot and forward prices or between cash and futures prices. However, if futures trading is to have any economic significance, the relationship that does exist should be competitively determined and not subject to monopolistic influences. Although any degree of relationship may exist, futures trading in a competitive market always tends to increase the degree of relationship between spot and forward prices because it tends to increase market liquidity.

A corollary to this conclusion is that whether or not futures trading stabilizes prices is largely irrelevant; the significant question is whether or not futures trading facilitates the formation of prices that accurately reflect market supply and demand conditions over time. To the extent that futures trading increases market liquidity, speculation in futures will tend to cause the whole structure of prices in the market to reflect supply and demand conditions more accurately. To the extent that speculation in futures creates a manipulative potential in the market causing the market to be less competitive, futures trading will cause the whole structure of prices to reflect supply and demand conditions less accurately.

The prime consideration as to the significance of futures trading rests with the degree of monopoly in the market. This raises the problems of the nature of such monopoly and the possibility of its being eliminated without destroying the usefulness of futures trading.

Considerable confusion exists among writers on futures trading regarding the nature of manipulative activity in futures markets. It is often assumed, without recourse to analysis, that the manipulative activity to be found in futures markets may be characterized as a corner, i.e., a monopolization of the supply of a commodity. However, it is a fact that the manipulative activity in futures markets is usually to be characterized as a squeeze. In spite of the fact that it is sometimes argued that "a squeeze is a little corner", they are not identical



activities, and they differ in nature rather than degree. A corner depends for its success upon the possibility of creating a supply monopoly. A squeeze is effected when buyers of futures contracts unexpectedly stand for the delivery of physical goods on their contracts thus forcing sellers to suddenly enter the market for physical goods. The squeeze depends for its success upon the possibility of manipulating the demand, rather than the supply, for physical goods. Although the squeeze may be combined with a corner, the two forms of market manipulation are distinct, and the squeeze can only be effected in markets where claims to goods have been created that fall due at stipulated periods. The squeeze does not depend for its success upon there being a shortage of physical goods, but the squeeze may cause commodities to be diverted from their normal channels of trade. The squeeze always results in a distortion of prices over time, i.e., a distortion between spot and forward prices, and it may be executed even when prices are falling. Moreover, the squeeze manipulation is more certain of success than the corner, and it is always to the advantage of buyers of futures contracts to attempt a squeeze since they have nothing to lose and everything to gain by such an operation. It is concluded that markets with futures trading have an inherent manipulative potential that does not exist in markets without organized futures trading. Further, a policy designed to mitigate corners may not be applicable to the mitigation of squeezes. A squeeze is more like a run on a bank than it is like a corner, and it is amenable to similar kinds of controls.

Many attempts have been made to regulate, control, or prohibit speculation in general and monopolistic speculation in particular. None has been marked with outstanding success. In the United States individual states passed legislation in the nineteenth century against fraudulent speculative transactions such as those made in bucket shops and those which were deemed to be fictitious in nature. But no significant attempts were made until the twentieth century to regulate or control speculative activity on organized exchanges. Federal legislation passed in the twentieth century made both the intent to manipulate and actual manipulation of commodity markets illegal. Moreover, the commodity exchanges themselves created rules of trade designed to make market manipulation more difficult.

The difficulties that arose in these attempts to control or regulate manipulative activities were twofold. It was difficult to prove cases of manipulation, thus, remedial action was taken only after the damage had been done to the market. Regulations designed to lessen the manipulative potential often at the same time lessened the value of the futures market to its participants causing the market to be thin and all the more subject to manipulation by the few traders remain-

ing in the market. What is actually needed for the mitigation of manipulation is a means of eliminating the manipulative potential which will not at the same time destroy the usefulness of the market.

Economists, in discussing the possibility of instituting a general commodity-reserve currency (futures contracts may be thought of as specialized commodity-reserve currencies), have shown the possibility of substituting futures contracts for the reserve stock of physical commodities. The principles inherent in these suggestions might be applied to the problem of controlling manipulation in futures markets where the credit items created bear a close similarity to commodity currency.

It can be shown that it is not feasible to maintain a stock of actual commodities to serve as a reserve behind commodity currency nor would such a plan be feasible in the case of futures trading. However, should such a reserve stock be maintained it would have to be sold to market participants, in the case of futures trading, at a price equal to the price of the next maturing futures contract. This amounts to charging replacement costs. This raises the question of whether it might not be possible to substitute some form of futures contract for actual physical goods as a means of maintaining market liquidity whenever there is danger of a squeeze in a futures market.

Whether or not it would be feasible and desirable to institute a scheme to substitute futures contracts or some similar claims for the delivery of actual physical goods rests primarily on three conditions: (1) The scheme should be automatic in nature and not subject to arbitrary decisions of individuals. (2) The scheme should operate in such a manner that a competitive time-price structure is maintained in the market. (3) The scheme should not work to the financial detriment of any individual participant in the market except that his financial gains (or potential gains) are derived from manipulative operations.

An institutional arrangement is suggested whereby an exchange clearing house might issue notes to customers that would be valid for delivery on futures contracts in lieu of commodities under stipulated conditions. It is demonstrated that the delivery of physical commodities on futures contracts is economically justified only under certain circumstances, and these circumstances never correspond to the conditions existing in a market suffering from a squeeze. Conversely, it is also shown that the delivery of physical goods on futures contracts has no economic significance over and above the delivery of claims whenever market prices are being manipulated by a squeeze.

Fundamentally, the scheme operates in such a way that as a manipulative potential is built up by buyers of futures contracts an equal and opposite (or offsetting) manipulative potential is built up by sellers. It is demonstrated that these two manipulative potentials will nullify



each other in actual practice and effectively inhibit attempts to manipulate futures markets by squeezing operations. The prevention of runs on banks requires that any bank be in a position to substitute an asset of the bank for the asset (deposit) of the customer which will cause the customer no financial loss. A similar provision for the substitution of assets is required if organized futures trading is to function without creating price manipulative potentials. It is believed that the scheme presented will fulfill this purpose and facilitate the maintenance of competitive commodity markets in cases where futures trading is an important market institution.

To consider futures trading as an aspect of monetary theory demonstrates that the principal characteristics of futures contracts are identical to the principal characteristics of money or credit. Both are devices for linking the present to the future. Both may be created without recourse to tangible assets. And it is necessary that special institutional arrangements be devised to safeguard the economic function of such credit items. To safeguard the economic function of such credit items involves something more than providing for the extinction of such claims according to the stipulations of the contracts involved. It involves, in addition, the provision of institutional arrangements for the maintenance of claims, or the asset-liability positions created, whenever the continuance of such asset-liability positions is conducive to the proper functioning of a free competitive price economy.



THE EFFECT OF FLUORINE ON PRASEODYMIUM  
TRIFLUORIDE  
AND  
THE PREPARATION AND PROPERTIES OF CERTAIN  
FLUOPLATINATES

by THEODORE PETER PERROS\*

Among the rare earth elements there are only three which display valences greater than the normal trivalent state. These are cerium, praseodymium, and terbium. Of the three only cerium forms tetravalent compounds, other than oxides, which are quite stable and easily prepared. It would be expected that praseodymium, the element next in order after cerium would exhibit similar properties. However, this is not the case. Only the oxides  $\text{PrO}_2$  and  $\text{Pr}_2\text{O}_3$  and related compounds have been found to contain praseodymium in the tetravalent state. However, from a consideration of the number of electrons available in the 4 f shell of praseodymium, it would be expected that the pentavalent state would be the most stable since the removal of the electrons would give a xenon structure. The existence of the pentavalent state has been claimed but recent work has shown this claim to be without foundation.

The fact that a higher valent state of praseodymium exists led many investigators to attempt the preparation of a tetravalent salt of praseodymium. All reported investigations, however, proved unsuccessful in this endeavor. One possible method for the preparation of a tetravalent compound was not fully investigated. This involved the use of fluorine. Since fluorine is a better oxidizing agent than oxygen, one would expect that praseodymium tetrafluoride could be formed by fluorination of the normal praseodymium trifluoride. In support of this premise, it is shown by thermodynamic calculations that praseodymium tetrafluoride is quite stable even up to temperatures of  $700^\circ\text{C}$ . Accordingly, in this investigation experiments were carried out in an effort to prepare the tetrafluoride. A fluorine generator was designed and constructed to produce about 40 cc of fluorine per minute. Fluorine was prepared by the electrolysis of molten potassium bifluoride. The apparatus was made of copper. The reaction tube which contained the sample to be fluorinated was made of nickel. The combustion boat containing the sample was fashioned from a fluorite cupel. Before each run was made the system was dried thoroughly since fluorine reacts readily with water. Praseodymium trifluoride was fluorinated at various temperatures ranging from room temperature to  $800^\circ\text{C}$ . and for intervals of time ranging from three hours to eight hours. After each run the sample was tested

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with hydriodic acid to determine whether or not oxidation of the praseodymium had occurred. In each instance the results were negative. It was concluded that the rate of reaction in the desired direction was so slow as to be completely impractical.

Attention was then turned to the development of a method for the preparation of fluoplatinates. Only one compound is reported in the literature to have been prepared which contains the fluoplatinate ion. Its preparation is a specific one and not of a general application. The efforts of this investigation were directed to the development of a general method. From a consideration of the effect of fluorine on platinum, the insolubility of the rare earth fluorides, and other factors, it was concluded that the method most likely to produce a compound containing the fluoplatinate ion would be the fluorination of an intimate mixture of a rare earth fluoride and platinum at a temperature of  $525^{\circ}\text{C}$ . Lanthanum trifluoride was mixed intimately with platinum and fluorinated for five hours at  $525^{\circ}\text{C}$ . in the apparatus mentioned previously. The reaction product had a pale yellow color. The platinum had disappeared completely. A portion of the reaction product when treated with water gave a solution having a pale yellow color. This solution when treated with oxalic acid, ammonium hydroxide, or hydrofluoric acid precipitated the lanthanum. The pale yellow color still persisted in solution. This solution when treated with hydrogen sulfide produced a precipitate of platinic sulfide. A similar solution when treated with formic acid produced free platinum. The same result occurred when hydrazine was used. In each instance, the pale yellow color of the solution vanished. When potassium fluoride is added to the solution from which lanthanum has been removed a pale yellow crystalline precipitate is formed. The above reactions indicated that the platinum was contained in an anion complex with fluorine, and that the compound probably was lanthanum fluoplatinate. In order to further substantiate this an analysis of the compound was necessary. Efforts to obtain a pure sample of the salt by evaporation of its solution were unsuccessful since hydrolysis products were found to be present. Samples for analysis were obtained indirectly. A portion of the reaction product was weighed, water added in several small portions until all of the soluble lanthanum fluoplatinate had been removed, and the residue was then dried and weighed. The difference in the weights of the residue and the original reaction product was taken to be the weight of the sample. The scheme of analysis adopted was the following: the solution of lanthanum fluoplatinate was heated slowly to boiling and oxalic acid added to precipitate the lanthanum as the oxalate; the oxalate was filtered off and then titrated with standard permanganate to determine the lanthanum content; the filtrate was



boiled and hydrazine added to the solution (reduction to free platinum was instantaneous); the platinum was filtered off, ignited, and weighed as platinum. The filtrate from the last step was retained in order to determine the fluorine content by the accepted procedure of precipitation as lead fluochloride. The results of the analyses indicated the formation of lanthanum fluoplatinate.

The absorption spectrum of this salt was measured with the DU Beckman spectrophotometer in the ultraviolet and visible region of the spectrum. Since lanthanum (III) has no absorption spectrum in the range of 230  $\mu$  through the visible portion of the spectrum, the absorption spectrum which was measured could be attributed to the fluoplatinate ion alone. Two characteristic peaks were noted at 273  $\mu$  and 318  $\mu$ .

The precipitate which was obtained by the addition of potassium fluoride to a solution containing the fluoplatinate ion was analyzed to determine whether it was the expected potassium fluoplatinate. The platinum and fluorine were determined in the same manner as previously described. Potassium was determined with the flame photometer and by precipitation with sodium cobaltinitrite. The results show that the compound is potassium fluoplatinate. Its absorption spectrum was similar to that of lanthanum fluoplatinate.

Praseodymium and neodymium fluoplatinates were prepared in the same fashion as lanthanum fluoplatinate. The procedure for the analysis was identical to that of lanthanum fluoplatinate. The absorption spectra of these two compounds not only showed the peaks characteristic of the fluoplatinate ion but also those characteristic of the praseodymium and neodymium ions.

Ceric fluoplatinate was also prepared but because the ceric ion hydrolyzed so rapidly no analysis of this compound was made.

Sodium fluoplatinate was prepared in the same manner as the rare earth fluoplatinates. Its absorption spectrum was identical to that of the potassium and lanthanum fluoplatinates.

Since ammonium fluoride is volatile, the ammonium fluoplatinate could not be prepared in the same manner as the rare earth fluoplatinates. Its preparation offered no difficulty, however. An excess of ammonium hydroxide was added to a solution of lanthanum fluoplatinate. This precipitated lanthanum hydroxide. The filtrate was taken to dryness leaving ammonium fluoplatinate. As would be expected, its absorption spectrum was identical to that of sodium, potassium, and lanthanum fluoplatinates.

The density, solubility, and degree of hydration of each compound were determined. The density was obtained by measuring the volume displacement of toluene by a known weight of the salt. A one ml. capacity pycnometer was used in these determinations.



The solubility for each was determined by a standard procedure. All are soluble except potassium fluoplatinate which is only slightly soluble.

The degree of hydration for potassium, sodium, and ammonium fluoplatinates was determined by drying the salt at  $120^{\circ}\text{C}$ . Both potassium and ammonium fluoplatinates are anhydrous whereas sodium fluoplatinate is a hexahydrate.

The degree of hydration of the rare earth fluoplatinates could not be determined in this manner since complete dehydration is not obtained at temperatures even up to  $150^{\circ}\text{C}$ . At slightly higher temperatures decomposition occurs. The degree of hydration was determined by making an analysis of the platinum content. From this the degree of hydration was calculated.

The properties of the fluoplatinates are quite similar to the corresponding chloroplatinates with the exception of the solubility of the ammonium fluoplatinate. Ammonium and potassium chloroplatinates have similar solubilities at temperatures below  $20^{\circ}\text{C}$ ., but this is not the case with the corresponding fluoplatinates. Potassium fluoplatinate resembles the potassium chloroplatinate in the extent of solubility, but the ammonium fluoplatinate is far more soluble than ammonium chloroplatinate.

The development of a method for the preparation of the fluoplatinates opens up a new field of investigation.

# THE DYNAMICAL EVOLUTION OF A STAR AND A COMPARATIVE STUDY OF NUCLEON AND RADIATION TEMPERATURES

by ARTHUR NAEOLE CARSON \*

A numerical integration of the dynamical equations of stellar interiors is discussed and prepared for solution on a fast electronic computer. Rotational effects and viscosity are neglected although consideration is taken of the probable development of a convective core. Energy generation is provided for according to three types of reaction: the proton cycle, the carbon cycle, and the Salpeter reaction by which helium may be converted into carbon. This last reaction only proceeds appreciably at very large densities and temperatures, such as may be expected in the central regions of stars which are in the last stages of their evolution. One of the objects of the calculation is to investigate the influence of this type of energy generation upon stellar behaviour.

The problem begins with a large spherical ball of cool gas which then contracts under gravity. The gas is heated by the release of potential energy, part of which is converted into velocity of material so that compressive work is done upon the inner regions of the star by the outer regions. After sufficient temperature and density have been attained in the center, the nuclear reactions begin to liberate energy. The collapse will eventually stop, owing to the development of a pressure gradient, and from this time on the star burns until its fuel is exhausted. The purpose of the problem is, of course, to record the detailed behaviour of the star while this burning process is going on and, if possible, to ascertain the nature of the end product. The particular star under consideration does not refer to any known existing object. Its mass has been taken to be 3.65 sun-masses; its composition is initially by weight 55 per cent hydrogen, 44 per cent helium, and 1 per cent of the other elements in the ratios given by Harrison Brown for the naturally occurring elements. These concentrations will, of course, be modified in certain regions of the star, as time goes on, as the result of nuclear reactions which take place. No other type of modification of concentration is allowed, however—no radial mixing, for example, with the exception of the uniform mixing which is assumed within the convective core.

For this initial problem, the opacity of the material to radiation is assumed to obey the Kramer law. This law is known to be incorrect in certain regions of the star, especially near the surface, but we nevertheless assume that it is true everywhere. The Kramer law, however,

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is probably a fairly good fit to the truth within the interior regions which have the most influence upon the star's development. By a process of iteration of problems, in which better and better account is taken of all factors which determine the opacity, the detailed knowledge of stellar interiors can possibly be improved. It is not necessarily so, however, that by this process we would really approach the truth any closer. The opacity itself would be more nearly correct for the conditions which we calculate to prevail, but there are other considerations which might far outweigh this improvement. The effects of rotation and viscosity, which we have almost entirely neglected, are capable of modifying the results tremendously. Should the correct viscosity and rotation effects combine in such a way that the entire star is in convective equilibrium (completely or partially mixed), the characteristics of burning would be greatly changed. In this case the burning would be able to draw fuel from the entire stellar mass rather than form only a relatively small central zone. There are also intermediate variations of this effect which could conceivably produce other unusual results. We have naturally assumed conditions which *seem* to prevail among at least some types of stars. Owing to our lack of knowledge of the viscosity in stellar interiors and the difficulty of inclusion of rotation in the equations, it would be very difficult to make different assumptions in any case.

The stellar material is assumed to obey the perfect gas law up to the point at which electron degeneracy begins to occur. After this point has been reached, we still treat the atoms and ions as obeying the perfect gas law, but use the equation of state of a weakly degenerate gas for the electrons. Radiation energy is also included in the equations. Corresponding treatment is given to the specific heat, the pressure, and other thermodynamic coefficients. It has been assumed, subject to later modification if necessary, that the electron gas will not become more than weakly degenerate. This assumption may appear to be somewhat optimistic in view of the high densities which are required by the Salpeter reaction. The Salpeter reaction, however, also involves a requirement of very high temperatures, and the expectation is that the high temperature will be sufficient to prohibit strong or even medium degeneracy.

For numerical solution the differential equations are written in the difference form. In order to maintain stability of the difference equations and also to allow the use of an arbitrarily large time interval it is necessary to write the difference equations in implicit form. According to this scheme, the differences are all centered at a time following the time of the last determined values. Coefficients are also centered in the same way. As a result, the difference equations contain the unknown quantity in nonfactorable expressions—hence the name, “im-



plicit". The solution of coupled implicit algebraic equations is possible to perform by direct methods if the coefficients in the equations are simple enough, and if the equations are linear. These particular equations, however, are extremely intractable to direct solution. The method of solution used here is that of successive approximations. A guess is made of the value of the unknown, by means of quadratic extrapolation in time. The guessed value is inserted into the equations and used to calculate an improved guess. This procedure is repeated until no improvement is observed. The method which will actually be used with the electronic computer will be to make all the first guesses (extrapolations) at once, for all values of the space parameter. One then calculates the improved guesses for all space points before returning to repeat the traverse over the space points again. Analysis of the difference equations to determine their stability is performed according to the von Neumann method. According to this method a small error is inserted which is then represented by its Fourier expansion in time and space. A representative term of the expansion is chosen and an investigation made to find the conditions under which the magnitude of the temporal part of the term remains less than unity; that is, the condition for which the error does not increase with time.

In order to obtain good convergence to the true solution, as well as stability, it is necessary to choose time and space intervals in such a way that linear extrapolation does not introduce appreciable error. This is because the difference scheme is constructed to agree with the differentials only up to first differences. Such a choice of intervals obviously depends upon the magnitudes of space and time derivatives which occur in the problem, and optimum values cannot be chosen arbitrarily beforehand. The space interval has been chosen arbitrarily nevertheless. We are therefore correspondingly limited in our flexibility toward conditions which may develop. It is believed, however, that the space interval which has been chosen should give a good representation of the true solution, and the time interval has been left open to variation. We have chosen a constant interval in space such that there are eighteen points including the center and the surface of the star. This choice of a constant interval has two advantages. First, it simplifies the construction of the problem to have a constant interval. Second, it provides that the mass resolution is highest in the center where we expect more variation. Since nearly all of the physical quantities which occur are mass dependent, rather than space dependent, it is really mass resolution which is important to obtain. The mass resolution which is obtained in this way is really quite high near the center, as may be realized by the fact that the mass in a given shell is proportional to the difference of the cubes of the inner and outer radii of the shell.

It is expected that with optimum running conditions, which are most likely to occur while the star is near the middle of its evolutionary history, the time interval will be about ten to thirty million years. In order to permit these long intervals, the star must, of course, behave in a very regular fashion. Some stars in the natural world do appear to behave in such a regular fashion, although it is not known whether this particular star will do so. Some other stars in the natural world also appear to be undergoing violent disturbances, to be pulsating, and so on. It is presumed that such peculiarities are concerned with the approaching exhaustion of fuel—which, so long as it is present in sufficient amounts, is supposed to support steady and regular burning. It is not *certainly* known, however, that fuel exhaustion is the cause which is really responsible for the nonsteady behaviour. In any case, there is the possibility that at some period in its life the star will begin to pulsate, and perhaps do even more erratic things. If there are pulsations of only small amplitude, the process of solution by iteration will probably suffice to continue the solution. We shall, of course, be informed if such pulsations are taking place, because the number of iterations necessary to convergence will increase, and this fact will be recorded. If the temporal variability is of large amplitude, and irregular, we shall desire to follow its course in detail and shall therefore reduce the time interval accordingly. We may in this case take something like six to a dozen steps to a "period" of the irregularity. It is also conceivable that a type of pulsation will occur which is very regular in time but of quite large amplitude. We should like to use a time interval which includes a rather large number of these identical pulsations, but at present the problem is not set up to solve this difficulty automatically. The future behaviour of the star will depend upon its history up to the point in question—primarily upon the reaction history. If this latter type of variability should develop, it will be necessary (in order to use a large time interval) to insert by hand an extrapolated history of reactions during the interval. In practice, once the pattern becomes known, an analytic fit to the history will probably suffice.

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A numerical investigation has been made into the possibility that during the period of element formation, near the time of origin of the universe, the temperatures of matter and of radiation may have been different. The purpose of such an investigation, apart from its intrinsic interest, is the search for a mechanism to remove the difficulty in producing elements heavier than atomic mass five. Gamow, Alpher, and Herman have developed the neutron capture theory of element formation which proposes that each element was formed from the next lighter element plus a neutron. Since there is no element of atomic mass five.



according to a direct application of the theory there could be no heavier elements formed. There are several possible reactions between elements lighter than mass five which will produce heavier elements, but so far none is known which takes place with sufficient probability to account for the observed total mass of heavier elements. The most likely reactions of this type are the two:  $H^2 + He^4 = Li^7$ , and  $He^3 + He^4 = Be^7$ . Both of these reactions are limited in occurrence by the mutual repulsion of the nuclear charges, the potential barrier. A high nucleon temperature would increase the energy available to surmount the barrier and so increase the transference of mass across the gap at mass five. It is assumed, and demonstrated to be reasonable, that nearly all of the energy which is produced at this period by formation of new elements is deposited in the nucleon gas. It is also assumed that the electrons are in thermal equilibrium with radiation, but that the interaction of nucleons with radiation directly is too small to be of importance. There is, however, an interaction between electrons and nuclei, by means of which energy may be transferred from the nucleon gas to the radiation field. The primary question is whether or not this energy loss from the gas of nuclei is so strong as to prevent the development of a temperature differential between nuclei and radiation. The equation for the rate of energy transfer between electrons and nuclei by means of Coulomb interactions is derived and numerical values given for the coefficients. The formula for the thermonuclear reaction rate is taken from the paper by Alpher and Herman, and their coefficients (essentially the cross sections for the reactions) are used. It is also assumed that the radiation temperature and the matter density follow the laws given by Alpher and Herman. On this basis, the differential equation for the energy conservation in the nucleon gas is written down, and the temperature equation obtained by division by the specific heat  $3Nk/2$ . Numerical solution of the equation is by the method of successive approximations. One thus obtains a time record of the behaviour of the nuclear temperature. The result which is obtained shows that no temperature differential develops.



## EXPERIMENTAL MORPHOLOGY IN *PENICILLIUM*

by MARLIN ALWINE ESPENSHADE\*

For many years mutations have been of concern to the theoretical as well as the industrial research microbiologist; both spontaneous and induced mutations have been the subject of many discussions and publications. Only within the past two or three decades has concerted effort been focused on determining the possible mechanisms which might be responsible for these changes. Many different terms have been coined in mycological literature to refer to a change or variation. Some of these mean permanent, while others only temporary, modifications. Mutation connotes a sudden permanent change in some character of the organism. In fungi the mutations, which arise as evident sectors in vegetative growth of plate cultures, suggest that the mechanism is somewhat analogous to bud mutations or sports in higher plants. Many types of induced mutations have been obtained through the aid of x-ray and ultraviolet irradiation, through the action of various chemical compounds as sodium nitrite and d-mannitol, or through other factors as temperature or hydrogen-ion concentration.

This study in experimental morphology was initiated while observing the effects of various chemicals on some hyphomycetous fungi in which certain species of *Penicillium* and *Aspergillus* yielded no mutants when grown on Czapek-Dox agar medium containing different concentrations of assorted suspected mutagenic substances: colchicine, cupric sulfate, mercuric chloride, and plant growth regulators. A list of the organisms which were maintained as stock and used in these treatments (after having been isolated from soil, mildewed leather, spoiled foods, decaying fruits, contaminated agar and liquid media in the laboratory, stored grain, decomposing vegetable matter, musty cereals, and other natural sources) is as follows: *Aspergillus clavatus* Desmazieres, *A. fischeri* Wehmer, *A. flavus* Link, *A. repens* (Cda.) DeBary, *A. unguis* (Emile) Weil and Gaudin) Emend. Thom and Raper, *A. versicolor* (Vuill.) Tiraboschi, *Penicillium caseicolum* Bainier, *P. cyclopium* Westling, *P. digitatum* Saccardo (2 strains), *P. diversum* Raper and Fennell, *P. expansum* Link, *P. frequentans* Westling (2 strains), *P. humuli* van Beyma, *P. italicum* Wehmer, *P. lilacinum* Thom, *P. purpurogenum* Stoll var. *rubri-sclerotium* Thom (2 strains), *P. roqueforti* Thom, *P. spiculisporum* Lehman. As these treatments were being conducted, it was noted that a strain of *P. purpurogenum* Stoll var. *rubri-sclerotium* Thom was rather variable *au naturel*. This strain had been isolated as a laboratory contaminant from a solution of ferric citrate. It was

\* B.S. 1941, Lebanon Valley College; M.S. 1943, Purdue University; Ph.D. conferred November 11, 1952.

thought that some "staling product" might be responsible which would be effective on other organisms. In the ensuing trials with 15 species of *Penicillium* and 6 of *Aspergillus*, only *P. frequentans* Westling (an isolate from cooked green beans) was found to be susceptible to the formation of mutants when growing near the other species in the same agar plate. Herein is a conspectus of the results concerning the morphology of some of these induced mutants.

Attempts were made to delimit some of the characteristics of this mechanism. The mutagenic effect was not operative if the agar medium under the one strain were kept separate from the medium under the other. When growing in a common atmosphere but on discrete agar plates partitioned by glass, the cultures yielded no discernible mutation. This indicates that a non-volatile organic product (or products) of *P. purpurogenum* var. *rubri-sclerotium* may be responsible for the initiation of mutants in *P. frequentans*. Induced mutants of *P. frequentans* have shown no ability to induce further mutation in the normal strains of *P. frequentans*; this rules out the suggestion of a fungal virus being transferred from the one species to the other. Up to the present there has been found no report of viral diseases on the Hyphomycetes but the idea is not outside the realm of possibility. Likewise, the results were negative for mutagenic effect if the "staled" broth (liquid culture with stationary surface growth, or shaken submerged growth with a culture of *P. purpurogenum* var. *rubri-sclerotium*) were incorporated with fresh Czapek-Dox agar medium in concentrations of 0.01 per cent to 10 per cent of "staled" liquid Czapek-Dox medium to fresh agar medium. There are several obvious differences between the procedures in the use of the semi-solid agar and the liquid media. In using the solid substrate there is the association of living organisms. In the liquid techniques, however, only the extracellular products of the one organism are supplied to the other; then too, these are supplied only after a filtration to eliminate conidia and mycelium. Adsorption of the mutagenic principle onto the asbestos, porcelain, or diatomaceous earth filters could possibly inactivate the "staled" liquid. Also impurities in the agar (agar from various sources is known to contain biotin) may be responsible for the production by *P. purpurogenum* var. *rubri-sclerotium* of the mutagenic agent or for its stabilization and activity.

The mutant colonies were distinctly different from those of the normal strain. These macroscopic deviations were manifestations of microscopic changes in the morphology of the fungus under surveillance. There were definite changes in the structure of the penicillus with marked decrease in the number of phialides to each conidiophore. The number of conidiophores in a unit area, likewise, was reduced. In changes such as these where a marked decrease in conidia is present, the color and texture of the colony is affected. All of the mutants revealed a



decrease (never an increase thus far) in the number of conidiophores along with that of phialides indicating a possible toxic or "injury" effect of the one organism on the other. This effect, however, was a lasting one and not merely a response variation showing up in the immediate generation only. The penicilli formed fewer than the normal number of phialides, which ranges from 10-14; some of the mutants had 1-3 phialides to a conidiophore while others bore 2-5 or 3-7 as the usual number. In certain of the mutants many short abnormal branches were intermingled with the aberrant penicilli suggesting that these irregular branching hyphae may be abortive conidiophores. Many sterile hyphae were present in some mutant colonies and in one a completely sterile mycelium was obtained. Other changes, as pigments in the agar medium, rate of growth, and type of mycelium were noted but not studied at length. In fact, no attempt was made to take into account or to evaluate additional physiological or chemical requirements, changes, or products of these fungi.

A few of the patch or wedge sectors, when isolated from the parent colony, grew as the normal culture. This could indicate a temporary variation only or it could illustrate the possibility of failure to separate mutated hyphae and conidia from the normal while selecting material for transfer.

Single conidial cultures were utilized to obtain the mutants, and several of the mutant cultures were given inspection by single conidial dilutions.

Since no modifications were found in control plates of *P. frequentans* growing alone, these changes obtained in the presence of the other species are considered to be induced by the other organism. *P. frequentans* was also grown in the same agar plate with *P. spiculisporum*, *P. roqueforti*, *P. caseicolum*, *P. digitatum*, and *A. fischeri*. No mutations occurred in any of these associations. When all the mutants were taken into consideration, they presented a range of phialides and conidiophores from the normal through stages of less and less sporulation to a form which was completely sterile, the peak of frequency being toward the sterile side. These changes are regarded as possibly toxic but definitely mutagenic effects of one organism on the other. Experimental production *in vitro* of mutants with modifications in morphology may thus offer an explanation of some mutagenic changes in nature. As experimental morphology it is of direct significance to mycological taxonomy and could well have a fundamental bearing on other kinds of mutagens.



## A POLAROGRAPHIC INVESTIGATION OF SOME NITROPARAFFINS

by MICHAEL MITCHELL FRODYMA •

Although there have been several investigations of the polarographic behaviour of the mononitroparaffins, there has been no corresponding interest in the polarography of the polynitroparaffins. The recent interest in the polynitroalkanes as possible components of airplane and rocket fuels and of explosives has called attention to the desirability of learning more about the chemical behavior of these compounds and of developing new analytical procedures for their determination. The purpose of this investigation was to ascertain whether polarographic methods could be of any assistance in the solution of these two problems.

It was not originally intended to devote too much attention to the introductory members of the series, the nitromethanes, since it was felt that their behavior would be anomalous. As the investigation progressed, however, the possibility of developing a method for the simultaneous determination of mono-, di-, and trinitromethane in mixtures of these compounds became apparent and it was decided to make an intensive study of the polarographic behavior of these three. The study of tetranitromethane was discontinued after it became apparent that it was unstable in all but the most acid of the media being used in this research. Some work was also done with 1-nitropropane, 2-nitropropane, 1,1-dinitropropane, and 2,2-dinitropropane to provide an entry for subsequent studies that may be made of members of the series whose hydrocarbon character is more pronounced.

Two different recording polarographs were used in the course of this research. Studies of the variation of the half-wave potentials and apparent diffusion-current constants of the nitromethanes with pH were carried out with a Model XII Sargent Heyrovsky Polarograph, while the remainder of the polarographic data was obtained with a Leeds and Northrup Electrochemograph, Model 62200. Except for a few studies which were made in approximately 0.1N hydrochloric acid and in 0.1N sodium hydroxide, the background electrolytes employed throughout this investigation consisted of buffers which were prepared so as to possess maximum buffer capacity. The concentration of nitro compounds in the polarographic solutions was about  $1 \times 10^{-3}$  molar.

Because of the exploratory value of such an investigation this research was initiated by studying the variation of the half-wave potentials and diffusion currents of the nitromethanes with pH. With the exception of tetranitromethane, which was polarographed in 30 per cent ethyl

• P.S. 1942, University of Massachusetts; A.M. 1947, Columbia University; M.S. 1949, University of Hawaii; Ph.D. conferred November 11, 1952.

alcohol, the solvent used in this study was deionized water. The reduction of nitromethane gave a well developed wave in all but the most alkaline media. The half-wave potential of this wave became more negative with increasing pH until it reached a nearly constant value in the pH range 7.40 to 10.35, while the wave height remained somewhat constant in acid media but decreased rapidly in the alkaline range. There were no apparent maxima. These results are in general agreement with the findings reported by earlier investigators if allowances are made for the variation in solvent and background electrolyte.

The reduction of dinitromethane gave polarographic curves whose characteristics depended to a considerable extent upon the acidity of the buffer system. This curve consisted of three waves in acid solutions, one wave in weakly acid and neutral solutions, and two waves in alkaline media. The half-wave potentials of all the waves became more negative with increasing pH until approximately constant values were attained for the two waves appearing in alkaline media. These two waves also showed the only pronounced trend in the variation of wave height with pH. The height of the first wave decreased with decreasing acidity while that of the second increased. Almost all the polarograms exhibited inverted V-type maxima located in the wave portion of the curve.

Polarographic curves of the reduction of nitroform at different acidities exhibited a single wave in all but the most alkaline media, where three waves were obtained. The half-wave potential of the single wave became more negative with increasing pH while its height decreased slightly. As in the case of dinitromethane, the appearance of the reduction curve varied considerably with pH. This was due to the effect of the buffer system upon the size, shape, and location of the single maximum which was observed throughout the pH scale. Maxima found in the acid range were unusually large peaked structures located at the crest of a wave, whereas those observed in neutral and alkaline media were hump maxima occurring in the diffusion current portion of the curve.

Considerable difficulty was encountered in attempting to study the effect of pH upon the reduction curve of tetranitromethane. One reason for this difficulty was the fact that all of the reduction curves, except those obtained in the most acid media, were complicated by the decomposition of the compound under investigation. In alkaline media, where this decomposition appeared to be instantaneous, the characteristics of the curves resembled those of nitroform. In acid solution, where tetranitromethane is most stable, the curves were so small and poorly formed that their measurement presented a problem. This was probably due to the loss of a considerable amount of electroactive



material through vaporization occurring during deaeration and recording. Although the half-wave potentials of the various waves became more negative with increasing pH, there was no pronounced trend among the diffusion-current values other than the great increase attributable to the probable formation of nitroform in alkaline media.

The maxima encountered in the previous studies introduced the problem of ascertaining whether true diffusion currents were being measured in the course of this investigation. To determine whether diffusion control was in effect or could be attained in the electroreduction of the nitromethanes use was made of a method described by Buckley and Taylor. This procedure involves polarographing a solution of the electroactive substance at varying drop times and repeating the process after each addition of a small amount of suppresser until diffusion control is attained. At this point, the values obtained for the diffusion-current constant at the different drop times are constant within the 2 per cent tolerance allowed for experimental errors. The electroreductions studied by means of this method were those of mono-, di-, and trinitromethane in aqueous solutions of tartrate ( $\text{pH} = 3.11$ ), phosphate ( $\text{pH} = 7.40$ ), and borate ( $\text{pH} = 9.17$ ) buffers. The suppressers used were gelatin, sodium carboxymethylcellulose, and methyl red.

Diffusion control was attained during the reduction of nitromethane at all three of the acidities investigated by the addition of approximately 0.006 per cent of either gelatin or sodium carboxymethylcellulose. Studies made with methyl red indicated that diffusion control could not be achieved through the use of this reagent. A considerable decrease in diffusion current was observed in all cases after each addition of suppresser. This decrease can be attributed to the change induced by the suppresser in the composition of the original equilibrium mixture of reducible undissociated nitromethane and its nonreducible ion.

The results of the diffusion-control studies involving dinitromethane varied considerably with pH. At the pH of the tartrate buffer, where the reduction curve consists of two well defined waves, diffusion control was attained for the second wave but not for the first, in the presence of 0.008 per cent of sodium carboxymethylcellulose. Studies carried out at the pH of the phosphate buffer indicated that diffusion control was in effect after the addition of either 0.002 per cent of gelatin or 0.004 per cent of sodium carboxymethylcellulose. Continued addition of either suppresser, however, not only resulted in the loss of diffusion control but also depressed the diffusion current greatly. At the pH of the borate buffer, diffusion control was achieved only for the first wave and only with the addition of 0.006 per cent of gelatin. Sodium carboxymethylcellulose proved to be ineffective in this instance. Although



efforts to secure diffusion control were only partially successful, all of the peak maxima encountered in this study were completely eliminated upon the addition of 0.004 per cent of either gelatin or sodium carboxymethylcellulose. As in the case of nitromethane, the results seemed to indicate that the equilibrium position of the mixture being reduced was affected by the addition of suppresser. In all cases where the reduction curve consisted of two waves, each addition of suppresser was accompanied by a variation in the apparent diffusion-current constants of both waves. These variations, which were much smaller than those observed with nitromethane, were approximately equal in size but opposite in sign—the apparent diffusion-current constant of the first wave decreasing as that of the second increased.

Diffusion control studies of the reduction of trinitromethane disclosed that diffusion control could not be achieved by using gelatin, sodium carboxymethylcellulose, or methyl red. Efforts to suppress apparent maxima were somewhat more successful since all peak maxima were eliminated by the addition of 0.006 to 0.008 per cent of either gelatin or sodium carboxymethylcellulose. Methyl red proved ineffective in this respect. Hump maxima appearing in the diffusion current portion of the curve appeared unaffected by all of the suppressers used. In the phosphate and borate buffers, both gelatin and sodium carboxymethylcellulose depressed one segment of the single-waved reduction curve preferentially with the result that the apparent diffusion-current constant decreased with increasing concentration of suppresser. Since evidence acquired in subsequent studies seems to indicate that the single reduction wave obtained for nitroform is actually a coalition of two or three waves, this resolution of the single wave was ascribed to the complexing of one of the initial reduction products by the suppressing agents.

A study was made of the reduction of mono-, di-, and trinitromethane in aqueous solutions of tartrate, phosphate, and borate buffers to ascertain the relation between their diffusion currents and the pressure on the dropping mercury. In all but one case, the diffusion currents were found to be proportional to the square root of the effective pressure on the dropping mercury. Since this is the behavior expected for a diffusion-controlled electrode reaction according to the Ilkovic equation and the Poiseuille relation, it was concluded that the currents being measured in these studies were controlled largely by a diffusion process. The same conclusion was indicated by the results of a temperature study that was made of the reduction of mono-, di-, and trinitromethane in aqueous solutions of tartrate, phosphate, and borate buffers. The temperature coefficients found for all of the apparent diffusion-current constants were near the 1.5 per cent per degree value expected for an electrode process that is diffusion controlled.

Buffer capacity studies were made of the electroreduction of mono-, di-, and trinitromethane in aqueous solutions of tartrate, phosphate, and borate buffers to ascertain whether the solutions being polarographed in the course of this investigation were adequately buffered. This was accomplished by polarographing the nitro compounds in solutions which were 0.048, 0.096, and 0.144M in each of the buffer components, and observing the effect of this variation of buffer capacity upon the characteristics of the reduction curves. Since only slight effects were noted, except in one or two instances, it was concluded that the buffering afforded the polarographic solutions was adequate.

A solvent study was made of the reduction of mono-, di-, and trinitromethane in 14.4 and 28.8 per cent ethyl alcohol solutions of tartrate, phosphate, and borate buffers to ascertain what effect the addition of ethyl alcohol would have upon the characteristics of the reduction curves. The results obtained depended upon the compound. In the case of nitromethane, which gave a single wave in aqueous solution, the addition of alcohol caused the half-wave potential to shift to a more negative value and the apparent diffusion-current constant to decrease without affecting the structure of the wave. With dinitromethane, whose reduction in aqueous solution gave two well developed waves, the addition of alcohol had a similar effect upon the first wave while apparently anomalous results were obtained for the second. These inconsistencies were probably due to the shift induced by the alcohol in the position of the equilibrium mixture being reduced, and it is quite likely that similar results would have been noted in the case of nitromethane if its ion, which is in equilibrium with the undissociated nitroparaffin, were reducible. For this reason, the variation in the apparent diffusion-current constants of these compounds cannot be attributed entirely to the decrease in the rate of diffusion of the reducible species resulting from the addition of alcohol. The shift in the half-wave potentials likewise cannot be attributed entirely to the addition of alcohol since part of this effect is due to the increased pH resulting from this addition.

The results of the trinitromethane study differed from those obtained for the other two compounds in the fact that the addition of alcohol was accompanied by a change in the structure of the irregular single-waved reduction curve obtained in aqueous solution. In 14.4 per cent alcohol, the single wave split to give a small initial wave and a large structure which appeared to be a coalition of two more waves. The curve obtained in 28.8 per cent alcohol was similar except for some resolution of the coalesced waves. These effects seemed to be a function of pH as well as of the solvent since they were not apparent in tartrate buffer, were considerable in the phosphate buffer, and were most evident in the borate buffer.



Studies made of the stability of the aqueous stock solutions of mono-, di-, and trinitromethane disclosed no polarographically discernable change in composition over a period of several months. Time studies were also made of all four nitromethanes in solutions buffered at different pH values. The study made of nitromethane in the phosphate buffer disclosed that the height of the single reduction wave obtained in this medium decreased with time until equilibrium was reached between the undissociated normal and aci-forms of nitromethane and their nonreducible ions. These results were substantially the same as those obtained by Miller, Arnold, and Astle who found a similar time effect occurring throughout the pH range. Time studies made of di- and trinitromethane in the same buffer revealed that the polarographic curves obtained for these compounds underwent no change over a period of two hours. In the tartrate buffer, the trinitromethane curve remained unchanged after three hours while that of dinitromethane showed a slight variation in the heights of its two waves—the first increasing as the second decreased. The time studies of tetranitromethane were made in 30 per cent ethyl alcohol solutions of all seven of the background electrolytes used in this investigation. Consideration of polarograms taken shortly after the preparation of these solutions, and twenty-four hours later, revealed that the compound was stable only in acid media. In view of these results, it would seem advisable to reevaluate the method developed by Cruse and Haul for the polarographic determination of tetranitromethane at a pH of 12.

Concentration studies were made of the reduction of mono-, di-, and trinitromethane in an aqueous solution of acetate buffer ( $\text{pH}=4.69$ ) to determine whether the height of the large well developed wave obtained in each case was directly proportional to the concentration of electro-active material. The range in concentrations studied was 0.216 to 1.06 millimoles per liter for nitromethane, 0.189 to 0.944 millimoles per liter for dinitromethane, and 0.100 to 0.498 millimoles per liter for trinitromethane. A straight line relationship was found to exist between diffusion current and the concentration of all three nitro compounds.

The feasibility of the simultaneous determination of mono-, di-, and trinitromethane in mixtures of these compounds was also investigated. The reduction of binary and ternary mixtures gave curves consisting of two and three well developed waves with enough of a difference in half-wave potentials (half-wave potentials at this pH were  $-0.30$  for trinitromethane,  $-0.49$  for dinitromethane, and  $-0.79$  for nitromethane) to permit the accurate measurement of wave heights. The determination of the nitroparaffins was accomplished by measuring the height of the waves resulting from their reduction and reading the corresponding concentration from calibration curves. When the waves were measured



in the conventional manner the average deviation found for the different determinations was 10.42 per cent for nitromethane, 4.40 per cent for dinitromethane, and 4.18 per cent for trinitromethane. The average deviation for all determinations was 6.33 per cent. A decrease in the average deviation of the nitromethane determinations to 4.57 per cent was made possible by the application of a correction for the maximum occurring in the trinitromethane curve. This maximum, which could not be eliminated entirely, did not affect the accuracy of the dinitromethane determinations but was the cause of a considerable negative deviation in the nitromethane values. The use of this correction factor decreased the average deviation for all the determinations from 6.33 per cent to 4.38 per cent.

Evidence was obtained which indicated that the observed decrease in the height of the wave obtained for the reduction of nitromethane in weakly acid and in alkaline solutions is due to the conversion of the reducible nitro form to an irreducible species which is either a mixture of the anions  $\text{CH}_2\text{--NO}_2$  and  $\text{CH}_2\text{=NO}_2^-$  (mostly the latter) or, as Hammett suggests, a resonance hybrid of these two forms. In the case of dinitromethane, potentiometric and polarographic data were secured which indicate that the ionization constant of this nitroparaffin should be approximately  $4 \times 10^{-8}$  and that the two waves observed in weakly acid and in alkaline media are the result of the successive reduction of the undissociated nitroparaffin and its anion. With respect to trinitromethane, polarographic data were obtained which indicated that the reducible species is the anion of the nitroparaffin. The calculation of  $n$  for the reduction of di- and trinitromethane from the slope of a plot of  $E$  versus  $\log i/(i_d - i)$  gave values which were considerably less than one. These results indicate that the electroreductions are irreversible processes and that other means must be used to determine  $n$ . The ease of reduction of these three nitromethanes was found to be in the order trinitromethane > dinitromethane > nitromethane throughout the pH scale and in both aqueous and 30 per cent ethyl alcohol solutions. This is as expected since the inclusion of electronegative groups in a molecule generally tends to make electron capture easier by decreasing the electron density on a reducible group. Such an inductive effect would explain why the anions of di- and trinitromethane were reduced in the potential ranges available in this investigation while those of nitromethane were not.

Solutions of 1-nitropropane, 2-nitropropane, 1,1-dinitropropane, and 2,2-dinitropropane were polarographed in 30 per cent ethyl alcohol solutions of acetate buffer (pH=5.18) to ascertain the appearance and characteristics of their reduction curves. The results of this investigation indicated that the polarographic method could be applied profitably

in studies of the higher members of the nitroparaffin series. Some possible applications which might be made are the development of methods for the quantitative determination of these nitroalkanes and the identification of their position isomers.

A MORPHOLOGICAL AND HISTO-CYTOLOGICAL STUDY  
OF THE EFFECTS OF METHYLCHOLANTHRENE ON  
NORMAL AND REGENERATING LIMBS OF TRITURUS  
VIRIDESCENS

by MARVIN IRVING GOTTLIEB\*

Several investigators have concluded that the tissues of amphibians are refractory to carcinogens. Similarly, numerous attempts in amphibian experimental oncology have been abortive. However, little research has been conducted in an effort to understand the nature of this resistance to carcinogenic hydrocarbons; even in view of its possible applications to the mammalian cancer problem. Another phase of amphibian carcinogenesis, of which our knowledge is somewhat limited, involves a study of the effects of carcinogens on limb regeneration. The problem, heretofore, has been more a matter of conjecture and hypothesis than of actual experimental investigation and the obtainable data on this basic theoretical problem are scanty and contradictory.

The purpose of this investigation was twofold: (a) to study the morphological and histo-cytological changes taking place in tissues of the urodele painted with methylcholanthrene and (b) to study the effects of this carcinogen on the process of limb regeneration. For this analysis methylcholanthrene was selected as the carcinogen because of its known high potency as a neoplasm-inducer in mammals. The standard concentration of 0.6 per cent methylcholanthrene in benzene was used in order to correlate data on mammalian epidermal carcinogenesis with any effects which might be noted in the treated tissues of the urodele. The newt, *Triturus viridescens*, was utilized as the experimental animal because of its common use by other investigators in carcinogen studies. This salamander has also been the subject of an exhaustive histological and morphological study of urodelian limb regeneration. Both the efts and water-stage adults were used in this work for additional comparisons of the effects of the carcinogen.

The experimental design of the research divided the animals into two major groups. The stump of the left hind limb of one group was treated and the normal limb of the other. These groups were further subdivided into series receiving applications of the carcinogen daily or twice a week. The newts were sacrificed at the critical stages of 5, 10, 15, 30, 50, 70, 90, and 120 days after amputation at which times morphological, histological, and cytological studies of the limbs were made. Examinations of normal limbs treated with methylcholanthrene were made for the detection of tumors, ulcers, areas of depigmentation,

\* A.B. 1947, New York University; M.S. 1949, The George Washington University; Ph.D. conferred November 11, 1952.



and other lesions. Such examinations of the regenerative limbs, and also comparative studies of the rates of regeneration and the morphology of the regenerates, were made. All abnormalities or significant variations between controls and treated animals were recorded and photographed.

The more conclusive results were obtained in the series of animals in which the limb was amputated and the stump painted either daily or twice a week with the carcinogen. A variety of abnormal regenerates was produced as a result of treatment. An early stimulative effect of methylcholanthrene on the rate of regeneration was indicated by the precocious development of digits. The later stages, however, showed a retardation in the regeneration rate. Histological and cytological examinations supported the gross observations of the morphogenic disturbances. Suppression of cartilage differentiation and growth, as well as disturbances in the mitotic counts, were recorded.

The effects of methylcholanthrene on the tissues of normal limbs were not manifested in any marked gross or histological changes.

The production of ulcerous lesions was noted in a small number of treated animals but no true neoplasms were seen. The common histological and cytological changes that take place in mammalian epidermal carcinogenesis do not occur in urodele skin painted with methylcholanthrene. Alterations in mitotic counts similar to those known to occur in mammals during epidermal carcinogenesis were recorded.

The observed results of both phases of the investigation were compared to the changes which occur during mammalian carcinogenesis. The similarities and variations observed are of value in understanding the nature of carcinogen-resistance in amphibians. The disturbances of morphogenesis in limb regenerates subjected to carcinogenic treatments are of significance both as a basic theoretical problem and as a method of understanding the nature of carcinogenesis.

## THE INFLUENCE OF TRAINING IN PARTICULAR COLLEGE COURSES ON VERBAL AND NUMERICAL APTITUDES

by NORMA R. METZNER •

An experiment was performed to determine the influence of training in particular college courses on verbal and numerical aptitudes. The appropriate parts of the General Aptitude Test Battery, developed by the United States Employment Service, were selected to measure these aptitudes. Each of these tests has high test-retest reliability.

One test measuring verbal aptitude and two tests measuring two facets of numerical aptitude, numerical computation and numerical reasoning, were administered to several classes at The George Washington University during the spring term of 1950. The course which was considered presumably to provide numerical training was the College Algebra class, which constituted the experimental group for both numerical tests. Control subjects were drawn from two English courses and two Elementary Psychology classes.

Two courses in the English department were selected as the experimental courses for the verbal aptitude study, and control subjects were selected from the College Algebra classes and the two Elementary Psychology sections.

The three tests were administered at the beginning and end of the term, approximately three and one half months apart, by a trained administrator and several trained assistants.

The data were statistically analyzed by the method of analysis of covariance which permitted statistically matching the control and experimental groups (for each of the three aptitudes studied) for the three variables considered most important: initial aptitude score, age, and college year. The fact that other uncontrolled variables could not have operated effectively was shown by the high multiple correlations.

Tests of significance were performed on the adjusted group means, on the regression coefficients in each of the experimental and control groups, and variances where the means were significant. Three patterns emerged for each of the aptitudes studied:

1. *Numerical Computation*.—Training significantly affected the performance (between the .05 and .01 level) of the experimental group since their adjusted mean scores were higher than the control after the statistical matching provided by covariance had been taken into consideration. The variance of the two groups was not significantly different nor were the regression coefficients showing that the differences initially present between the two groups were not sufficient to account for the

• A.B. 1940, University of Wisconsin; Ph.D. conferred November 11, 1952.

differences obtained in adjusted mean scores and that training affected all in the experimental group equally.

2. *Numerical Reasoning.*—There was no significant difference in the adjusted mean scores of the control and experimental groups but a significant difference (beyond the .01 level) between the regressions of the two groups was found, indicating that training differentially affected the experimental subjects.

3. *Verbal.*—A significant difference (between the .05 and .01 level) was found between the adjusted mean scores of the two groups but a significant difference was also found (beyond the .01 level) between the variance of the two indicating that the differences initially present were sufficient to account for the obtained mean differences. Therefore, one cannot conclude that training affected the experimental group's performance.



## AN INVESTIGATION OF THE BACKGROUND, FUNCTIONS, AND ATTITUDES OF SIX GROUPS OF COUNSELORS

by JOHN PRICE MUNDY •

Little has been written on the precise duties or functions of counselors employed in various types of counseling positions or by different types of counseling agencies. Conventional job descriptions prepared by the organizations which employ counselors or by occupational information specialists have dealt rather vaguely with the specific duties and occupational breakdown of counselors.

The result of this lack of information on the duties of counselors is that many counselor trainers devise unrealistic training programs which may overemphasize unnecessary aspects of counselor training and fail to stress the more vital elements of counselor preparation.

Another group that has a vested interest in knowing what the duties of professional counselors entail consists of counselor trainees since they have so little specific occupational information upon which to base a choice among a wide variety of counseling occupations.

The purpose of the present study was to provide counselor trainers and students in counseling curricula with detailed descriptive information about the background, functions, and attitudes of six groups of professionally employed counselors.

The results of the study are based upon the responses of a total of 289 clinical, rehabilitation, college, VA, public school, and USES counselors to a questionnaire developed expressly for this purpose. The questionnaires were mailed to selected counselors during the latter part of 1951. The counselors to take part in the study were selected on the basis of their biographical sketches in the then current directories of the American Psychological Association, or the National Vocational Guidance Association, or from the governmental agencies in which the counselors were employed.

The study comprised three major investigations. The first investigation was concerned with an analysis of the background of the six groups of counselors. The specific objectives of this analysis were to define and compare the groups with respect to their ages, sexes, highest academic degrees, undergraduate and graduate majors, intentions to work for a higher degree, length of counseling experience, and the type of counseling in which they engage.

The second major investigation analyzed the counseling duties or functions of the six groups of counselors. Counseling duties or functions, as used in this investigation, were defined as the types of prob-

\* A.B. 1940, Bridgewater College; A.M. 1948, University of Virginia; Ph.D. conferred November 11, 1952.

lems encountered by the counselors, the types of counseling tools, techniques, tests, and other aids the counselors use, and the types of referrals they make.

The specific objectives of the second investigation were:

1. To compare the groups of counselors with respect to the types of client problems encountered and the frequency with which each group of counselors encounters these problems.
2. To determine the relative frequency that the groups of counselors make use of various types of counseling tools and techniques in the counseling of their clients.
3. To compare the groups with respect to the types of psychological tests they use in counseling their clients and the relative frequency with which these tests are used by the different groups of counselors.
4. To ascertain the types of referrals made by the counselors and to determine the relative frequency with which they make these referrals.

The third major investigation in this study analyzed the attitudes or opinions of the counselors toward a series of controversial issues in the field of counseling. The following classes of counselor attitudes were explored: attitudes toward directive and non-directive counseling approaches, scientific and professional attitudes, attitudes toward group methods, counselor training attitudes, attitudes toward the client, attitudes toward counselor certification, and attitudes toward counseling as a profession.

The specific objective of this final investigation was to define and compare the different groups of counselors in terms of their attitudes toward these issues.

#### BACKGROUND OF THE COUNSELORS

When the groups of counselors were compared with regard to their ages it was found that the mean ages of the different groups were quite similar. The public school counselors were the oldest group while the USES counselors were the youngest. The mean age for both groups, however, was close to 40 years. The range of ages of counselors in all groups was from 27 to 67.

With regard to the sex of the counselors it was found that the public school group was comprised of more women than men. This was the only group in which this was true though the USES, college, and clinical counselors had a fairly favorable balance of the sexes. The rehabilitation and VA groups were comprised almost entirely of men.

When the groups of counselors were compared with respect to their highest academic degrees, it was found that more clinical counselors had doctor's degrees than counselors in any other group. The college counselors had the second largest number and the VA counselors had



the third largest number. The rehabilitation, public school, and USES groups had only four members among them in possession of doctor's degrees. All of the counselors had baccalaureate degrees except 12 (24 per cent) of the USES counselors.

The recency of the receipt of the counselors' highest degrees was investigated. It was found that most of the rehabilitation counselors have had their highest degrees between 11 and 15 years. The greatest number of USES counselors have had their highest degrees between 16 and 20 years. Most of the clinical, college, VA, and public school counselors, however, were awarded their highest degrees within the last five years.

The undergraduate majors of the counselors were examined and it was found that only 14.7 per cent of all the counselors majored in psychology at the undergraduate level. A larger proportion of the clinical counselors majored in psychology than in any other field but the largest proportion of counselors in each of the other groups had miscellaneous undergraduate majors which did not include psychology or education.

The graduate majors of the counselors were in turn explored. Seventy per cent of the counselors in the combined groups had graduate majors in psychology, education, or in guidance. Virtually all of the clinical counselors had graduate majors in psychology. The largest proportion of rehabilitation counselors had graduate majors in education. The largest proportion of college counselors had graduate majors in psychology while more VA and public school counselors majored in guidance than in any other field. One-half of the USES counselors had no graduate major in any field.

When the counselors were asked whether or not they planned to work for an advanced degree, the counselors in each group except the USES group were divided about evenly between the "yes" and "no" responses. Of the USES counselors only 16 per cent stated that they planned to work toward an advanced degree.

When the number of years of counseling experience of the six groups of counselors was compared it was found that the average clinical counselor had 9.5 years of experience. This was greater than any other single group. The mean number of years of counseling experience for the other groups of counselors was: rehabilitation, 6.5; college, 8.0; VA, 7.5; public school, 8.5; and USES, 5.5.

Of more significance to vocational counselors, their clients, and students of counseling is the fact that so many of the members of the groups of counselors had so little counseling experience. In the clinical group 14.3 per cent of the counselors had less than five years of counseling experience. Fifty-three per cent of the rehabilitation, 26 per



cent of the college, 29 per cent of the VA, 35 per cent of the public school, and 68 per cent of the USES counselors fell in this same category.

The reports of the counselors concerning the types of counseling they perform most frequently were investigated. The clinical counselors are primarily psychotherapeutic counselors. The rehabilitation and VA counselors indicated that vocational counseling is the type performed most frequently. Most of the college and public school counselors indicated that educational counseling is the type of counseling performed most frequently. The USES counselors indicated that job or placement counseling is the type they perform most frequently.

Of greater significance is the fact that many counselors in the different groups frequently perform other types of counseling. For example, small proportions of the clinical counselors reported that they perform vocational, educational, religious, and job or placement counseling, while many of the public school counselors indicated that they frequently perform vocational, personal, and job or placement counseling as well as educational counseling.

#### FUNCTIONS OF THE COUNSELORS

On the assumption that the functions of the counselors can be delineated by a knowledge of the frequency with which they encounter various types of client problems, the first specific objective of the second major investigation of this study was to compare the different groups in these terms. In order to accomplish this the counselors were asked to indicate the frequency with which they encounter various client problems classified as educational, vocational, personal-social-emotional, financial, health, and religious problems.

In response to the educational problems check list significant group differences among the counselors were obtained. The descending order of frequency with which the different groups of counselors dealt with educational problems was as follows: college, public school, rehabilitation, VA, clinical, and USES counselors. Perhaps the most interesting finding for the counselor trainer and student preparing to become a counselor was the fact that all groups of counselors included in this study had to assume the role of educational counselor on some occasions. The frequency with which this is done is the feature which distinguishes the functions of the different groups of counselors.

Somewhat the same pattern was revealed when the frequency with which the groups of counselors encounter vocational problems was investigated. The order of descending frequency for the groups is as follows: rehabilitation, USES, VA, college, public school, and clinical counselors. Again it was found that all of the groups perform voca-

tional counseling to some extent. Most of the differences in frequency among the groups, however, were significant differences.

A similar situation was found to exist when the frequency with which the groups of counselors deal with personal-social-emotional problems was investigated. Again all counselors are called upon to assist clients with problems in this category. Problems in this area usually come to the attention of the clinical counselors, but all counselors indicated that they are called upon by their clients for assistance in this realm with some degree of frequency. In order of descending frequency with which the different groups encounter personal-social-emotional problems are: clinical, rehabilitation, VA, college, public school, and USES counselors. The differences among the groups were significant but the overlapping among the groups of counselors was very great.

In response to the financial problem check list, the rehabilitation counselors encounter this type of problem with greater frequency than the other groups. Again, however, all of the groups of counselors, with varying degrees of frequency, assist clients with problems in this area. In order of the frequency with which these problems are encountered the groups are listed as follows: rehabilitation, VA, USES, clinical, college, and public school counselors. Virtually all of the differences in frequency among the groups of counselors were large enough to be significant at the 5 per cent level of confidence. This may be interpreted as meaning that the obtained differences among the groups were true differences and did not result from sampling or other random errors.

The frequency with which the groups of counselors encounter health problems in their clients was investigated. The order of frequency with which the groups deal with this type of problem is as follows: rehabilitation, USES, VA, clinical, college, and public school counselors. Most of these differences among the groups were also statistically significant. As with the other types of problems, even the group which meets these problems with the least frequency, on occasions, has to give counsel on physical health problems.

The clinical counselors indicated that they are called upon by their clients to assist in the working out of religious problems with greater frequency than any other group. The other groups, falling in descending order of frequency are: VA, rehabilitation, college, public school, and USES counselors. Most of the inter-group differences were significant ones.

In response to all of the problem check lists the groups of counselors responded differentially. This means that the functions of the counselors differ from group to group in terms of the frequency with which



they encounter specific types of client problems. Equally important is the knowledge gained that all counselors are called upon to assist in solving all types of problems some of the time.

From these facts it was concluded that counselor training must be broad. It must be comprehensive enough to enable the counselor to effectively meet the different problems as they arise in the course of his employment. Specialization in counselor training may be desirable but it cannot come too early in the counselor's training period.

The second objective of this investigation was to determine the relative frequency with which the groups of counselors make use of various types of counseling tools and techniques in the counseling of their clients.

In response to the counseling tools check list, the groups of counselors indicated their frequency of use of these tools in the following descending order: public school, rehabilitation, college, VA, clinical, and USES counselors. Examples of the types of tools included in the list are: anecdotal records, cumulative records, questionnaires, and problem check lists. Of the fifteen possible differences, when each group of counselors was compared with every other group, nine were large enough to be significant at the 5 per cent level of confidence. Of more importance than these group comparisons is the knowledge that some counselors in all groups use the various tools comprising the list with varying degrees of frequency.

In response to a second list of counseling aids, tools, and techniques the results were much the same as with the first list. The differences among the groups of counselors were about as sharply drawn since again 9 of the 15 possible comparisons among mean scores were significant. As with the first tool list the overlapping in frequency of use of the specific tools by the counselors in the various groups was very great.

From these obtained responses it was concluded that counselors can be defined in terms of the tools they use as well as the types of problems brought to them by their clients. It was suggested that counselor training provide trainees with the opportunity to become acquainted with as many of the tools of the counseling profession as practicable. The use of tools specific to their area of specialization should be stressed but a general knowledge of many would be highly desirable.

The third objective of this investigation was to compare the groups of counselors with respect to the types of psychological tests they use in counseling their clients and the relative frequency with which these tests are used by the different groups of counselors.

The responses to the psychological tests check list indicated that the frequency of use of various types of tests highly discriminates the different groups of counselors. Eleven of the fifteen possible comparisons



among the mean scores of the groups were significant. The groups listed in the order of descending frequency in their use of tests are as follows: rehabilitation, VA, clinical, college, public school, and USES counselors. Again there was much overlapping in the use of the specific types of tests by the different groups of counselors.

It was concluded from the responses to this check list that the counseling groups are identifiable on the basis of their frequency of use of tests in general as well as their use of the specific types of tests. It was suggested that all counselors have a knowledge of many types of tests. It was not suggested that all students in counseling curricula should become expert at administering very specialized tests, but it was pointed out that if counselors are to function with maximal effectiveness some knowledge of all types of tests is highly desirable.

The fourth specific objective of this investigation was to further define the groups of counselors and their duties in terms of the types of referrals they use and to ascertain the relative frequency with which they make referrals. It was found that the rehabilitation counselors make the most extensive use of all types of referrals. The rehabilitation counselors were followed, in order of frequency of use of referrals, by the VA, clinical, public school, college, and USES groups. Ten of the fifteen possible comparisons among the scores were significant.

On the basis of these results it was concluded that the frequency with which different groups of counselors refer their clients to other specialists for assistance is a duty or function which significantly varies from one group to another. On the basis of this function, then, one group of counselors can be discriminated from most others.

#### ATTITUDES OF THE COUNSELORS

The specific objective of this investigation was to further define and compare the groups of counselors by comparing their attitudes or opinions toward basic counseling issues.

Group scores for each of the items designed to indicate the counselors' attitudes or opinions toward these basic issues were computed. These group scores were used as the basis for comparing the attitudes of the counselors.

From an analysis of the ten attitude items which comprised the directive and non-directive approach classification it was concluded that no one group of counselors is consistently more directive or more non-directive in their counseling attitudes than another. Evidence for this conclusion was based on the fact that on four of the items in this classification all of the groups' scores fell on the non-directive side of the neutral point on the scale. On four other items in this classification all group scores fell on the directive side of the scale.

It was further found that the groups of counselors could not be differentiated one from another on the basis of their attitudes toward directive or non-directive counseling approaches for within each group there were wide individual differences among the individual counselors. In all groups some of the counselors appeared to have highly developed directive attitudes while other counselors in the same groups had equally strong non-directive attitudes. Without exception, this within-group variation on each of the ten items was more marked than the differences among the groups.

The ten items which comprised the scientific and professional attitude classification revealed that the counselors' attitudes were not a function of the group to which they belong. In response to these items the modal response for each group was identical. In addition the intra-group variation was about equal for all groups of counselors. That is, about an equal number of counselors in each group disagreed with an item even though most of the counselors in their respective groups indicated high agreement with it.

It was concluded that the groups of counselors were highly similar with regard to their scientific and professional attitudes and cannot be differentiated one from another on this basis.

The attitudes of the counselors toward those aspects of group methods in counseling measured by the items in this classification showed some significant group differences. However, on all of these items there were wide differences of opinion among the individual counselors in each group. These differences within the separate groups were so marked that they tended to obscure the few obtained significant group differences.

In general, all of the groups of counselors with the possible exception of the USES counselors, expressed a rather favorable attitude toward group methods of counseling. None of the groups felt, however, that group methods will ever be entirely sufficient—that is, group methods will never supplant individual counseling.

The attitudes of the counselors toward those aspects of counselor training measured by the items in this classification were found to be closely associated with the type and level of training of the different groups. Those groups whose members have had intensive graduate training feel that at least a year of graduate training is necessary for professional status as a counselor while those groups whose members have had less intensive training feel that this requirement may not be necessary.

Significant differences in attitudes toward having training in job placement or teaching experience were found among the groups of counselors, and this seemed to be a direct function of the type of coun-



seling performed by the counselors. The groups were not sure that wide personal employment experience by the counselor is desirable, although all groups agreed that counselors should have served supervised internships and that counselors' preparation should include extensive study in psychology. In general, each group of counselors felt that those aspects of counselor training which are closely related to their own past training are desirable while those remote from their own personal experience may not be necessary.

It was concluded that the groups of counselors could be differentiated on the basis of their attitudes toward these aspects of counselor training. It was further found that the groups of counselors were in general agreement that training standards for all counselors should be raised.

An analysis of the items which comprised the attitudes toward the client classification revealed that most counselors, regardless of the group to which they belong, felt that counselors are frequently justified in withholding test results from their clients, and that occasionally it is necessary for the counselor to divulge information which the client has given him. Most groups tended to agree that a sincere interest in people is more important for the counselor to possess than a good knowledge of counseling techniques. The counselors tended to disagree with the statements that counseling will not work with some clients and that most counselors prefer to counsel very intelligent clients than clients of average intelligence.

Little discrimination among the separate groups of counselors can be made on the basis of their attitudes toward these items. Very few significant group differences occurred. However, wide individual differences were observed to exist among the counselors of the separate groups.

On the basis of these findings it was concluded that counselors' attitudes toward the client are independent of the type and level of training the counselors have had and the type of counseling in which they engage.

With respect to the counselors' attitudes toward counselor certification such wide individual differences were found among the individual counselors of the various groups that group trends seem to be nonexistent. Counselors in all groups were about equally divided in their opinions that the state should take the initiative in setting minimum standards for counselors and that the American Psychological Association should tighten admission requirements so that membership is a badge of counseling competence. Most of the groups do express the opinion, however, that professional organizations should set higher standards for membership. None of the groups agreed that the counseling agency alone should set the standards for counselors employed by it.



It was concluded from the responses to the certification items that the groups of counselors are at best only luke-warm toward the idea of counselor certification in general and, furthermore, they seem to have no firm opinion on the type of certifying body which would be acceptable.

The attitude items in the attitudes toward counseling as a profession classification were analyzed and no groups were found to disagree that counselors' personalities become better integrated as a result of working with clients, that counselors are underpaid, and that most counselors, if selecting their own careers again, would choose counseling. No group of counselors agreed that most counselors are merely technicians instead of professional persons, or that the value of counseling in many instances is negligible. The groups were divided between agreement and disagreement in response to the statement that counseling can never be placed on a truly scientific basis. Wide individual differences among the groups were observed which tended to minimize the obtained group differences.

It was concluded that counselors' attitudes toward these basic counseling issues show relatively little variation among groups but instead show a high degree of variability within each group. This means that counselor attitudes are not entirely delineated by the counselors' background, functions, or agencies and institutions by which they are employed. Rather, it would seem that the attitudes of counselors are highly personalized and are formulated on the basis of individual thinking and experience.

SUMMARIES OF DISSERTATIONS  
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## RIGHTS OF EMPLOYERS IN INVENTIONS OF THEIR EMPLOYEES

by JASPER SILVA COSTA •

### INTRODUCTION

An invention made by an employee may be qualified in favor of the employer in advance of inventing by way of employer contribution thereto or by contract. A non-inventive employer contribution may be sufficient to give him a royalty-free license to use the invention, or a "shop right". His inventive contribution or his contract with his employee, whereby the employee agrees to invent, or improve, or to work upon a particular inventive problem, or to assign future inventions relating to the employer's business, entitles him to the ownership of the invention.

In deciding the nature and the scope of these rights of acquisition the courts have worked within circumscribed limits. The contract for the future assignment of the employee's invention, for example, is determined in accordance with the elements of a contract for the regulation of competition. A hiring to invent or improve, or instructions to the employee to work upon an inventive problem, must relate to a specific object. Should the employer have conceived an inventive idea which he has the employee reduce to practice, he must communicate that idea to this employee with definiteness. The employee giving form to that idea is held to have no inventive rights in the completed invention, or his ancillary discoveries thereto, unless these amount to new or independent inventions. If the employer's contribution to his employee's invention is less than an inventive conception, and he shall have no contract rights in or to the invention, the invention must still relate to his employee's duties if he is to benefit from a "shop right".

The judicial doctrine with respect to the employer's rights in the employee's invention applies alike to private employer and the Federal Government. Their administrative policies with respect to rewards for the inventing employer are means considered to supplement that judicial doctrine. The Federal Government has generally sought to render uniform its employee patent policies through Executive Order No. 10096. No such uniformity among private employers may be observed, the problem being essentially one for resolution between the inventing employee and his employer.

### "SHOP RIGHTS"

A "shop right" is an equitable right based on an implied license or estoppel which an employer may acquire in his employee's invention.

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That right is in the nature of an irrevocable, royalty-free license to use such invention, when the invention is made during the course of employment, at the employer's plant and at his expense.

For such a right the relationship of master and servant must exist, although an analogous relationship such as that of a partnership has recently been held sufficient therefor. If the employer's contribution in the form of time, materials, or facilities is made in advance of and is directed to the invention its value is immaterial. If, however, the contribution is refused by the employee, or is for the expense of patenting, or is reimbursed, or occurs subsequent to invention, no "shop right" may arise.

The right comes into being only with respect to a patentable invention made during the course of employment. An employee who makes an invention at home during his hours of non-employment, no other employer contribution appearing, confers no "shop right" on his employer unless what he does at home is incidental to the development of an invention.

The employee's consent is also requisite to a "shop right". That assent, if not express, may be implied from the employee's conduct or his silence. That conduct or silence is held to create either a presumption of a license or, if that may not be found, an *estoppel in pais*.

Once the "shop right" attaches it remains in effect regardless of the termination of the employee's employment. The scope thereof depends upon various factors, the nature of the employer's business, the character of the invention involved, the circumstances surrounding its creation, and the relation, conduct, and intention of the parties. The "shop right" ordinarily is to be exercised during the life of the patent at the plant where the invention is made, and may cover replacements or additional machines if and to the extent the employer's business so requires.

Such right is personal to the employer. It is not assignable and ends with the dissolution of the employer's business. It may, nevertheless, pass from a corporation to another which succeeds to or continues the entire business and goodwill or, in a partnership to the surviving partners continuing the partnership business or, in bankruptcy, to the receiver prior to the sale or other dissolution of the bankrupt employer's business.

The "shop right" is a valuable right, particularly with respect to inventions made by employees who do not sign patent assignment agreements or inventions made outside the terms of employment contracts. The employer's lack of title to the invention is a disadvantage to him, but provides the employee with an advantage even if it is that of qualified ownership. It is possible that a "shop right" broadened beyond geographic and alienation limitations could be considered as an acceptable



substitute for the implied contract to transfer the ownership of an employee's invention to his employer.

#### INVENTORSHIP (THROUGH COMMUNICATION)

An employer who contributes an inventive idea which is reduced to practice by an employee through the exercise of mechanical skill is the inventor of the completed invention, provided he shall have made a sufficient disclosure of his inventive idea. The inventive conception must be definite and be definitely communicated to the employee.

Should the employee in embodying his employer's inventive idea make formal changes thereto or improvements thereon which are short of being independently patentable, these become a part of the employer's invention. If the employee proves his contribution to be independently patentable he is entitled thereto, unless by contract he shall have agreed in advance to assign the invention to his employer.

The extension of this inventorship doctrine beyond a pure master and servant relationship requires a more definite communication of the inventive idea than for a mere employer-employee relationship. An inventive conception of an employee reduced to practice by another employee does not entitle the employer, as such, to the completed invention. Likewise a disclosure of such an idea by one to another without consideration for its reduction to practice carries with it no right to any invention embodied therefrom.

The inventorship doctrine, to the extent that it gives no inventive recognition to the employee for the exercise of his mechanical skill, creates no issue. When the doctrine passes beyond this point to deny inventorship to an employee's inventive though not independently patentable contribution, it may be in violation of the patent laws, if but for the master and servant relationship the employee would be entitled to be joined in the patent application as a joint inventor. In such an event it would seem that the rules for joint invention rather than inventorship through communication would benefit both the employer and employee, by reason of the certainty and benefits obtainable therefrom.

#### THIRD PARTY RIGHTS

An assignee of an employee's invention takes only the rights of the employee. The employer who may have a "shop right" in that invention may not prevent such an assignment. The rights of the employer and employee in the employee's invention are not available to infringing third parties not privy to such rights.

#### CONTRACT RIGHTS

An invention and a patent are property rights title to which may pass by contract to the employer in advance of invention. An agreement



between the employer and the employee, with respect to inventing by the employee, may be directed specifically to inventing or may provide for an assignment of future employee inventions. Should the employee be hired without reference to any such contract he may ordinarily retain title to his inventions made during the course of his employment. Whether the hiring is general or one specially to invent depends upon the original contract of hiring or the nature of the employee's duties during employment. In the latter event the burden of proof is upon the employer to show that the general employment became one specifically to invent with the express or implied assent of the employee.

A contract for the assignment of employee inventions to his employer may be written, oral, or implied. The written contract has the advantage of definiteness of proof and of having validity under some circumstances after the termination of the employee's employment. The oral contract of assignment may be sustained so long as the elements of a binding contract are present. An employee may impliedly agree to assign his inventions to his employer, if the nature of his duties so require or he is instructed to work upon an inventive problem.

Consideration in the nature of employment or retention in employment is sufficient to uphold an agreement for the assignment of employee inventions, its adequacy not being a subject for judicial inquiry, short of fraud. Initial mutuality in these contracts is not affected by an indefiniteness of the contract term.

An employee who makes an invention within the scope of a hiring to invent, or to improve, or his instructions to work on an inventive problem thereby causes the ownership of that invention to pass to his employer. The scope of such hiring or instructions extends to the object of the hiring or instructions and to any invention incident thereto, but not ordinarily to inventions otherwise within the field of the employee's work or a field related thereto.

An express contract for the assignment of an employee's future inventions or improvements is valid if the restraints of time, space, and subject matter are reasonable. Such contracts may treat with any invention made during employment which is definitely or indefinitely related to the employer's business. In contrast, contracts for the assignment of future improvements must relate to a specific object or subject matter.

These contracts, whether of definite or indefinite duration, pass title to inventions and improvements made during employment irrespective of non-disclosure and non-filing of the patent application during the term of employment. They may also transfer ownership of the employee's improvements, but not his inventions, after the employee's services with the employer have been terminated. Where an improvement ends and invention begins is neither well defined nor uniformly decided.

Ordinarily a covenant for the assignment of an employee's future inventions or improvements must be expressly stated. An implied agreement to that effect has heretofore been limited to those where there has been an extension or re-application of an original written covenant providing for the assignment of an employee's future inventions. Lately, decisions have found such implied agreements as extensions of either a preexisting contract or of the doctrine of a hiring to invent.

Contracts for the assignment of future inventions provide an employer both with the positive advantage of getting title to the employee's invention and the negative one of denying such an invention to his competitors.

#### PRIVATE MANAGEMENT

The employee's occupation may have a bearing upon the rights accruing to the employer with respect to his employee's invention, in a rough approximation to these seven categories: (1) unskilled, semi-skilled, or skilled workmen; (2) sub-professional labor; (3) professional workers; (4) supervisory employees; (5) executives; (6) owners; (7) independent inventors.

The first or general laboring group is not ordinarily under contract to invent. Not infrequently, if the employee is a skilled mechanic he is required to reduce his employer's inventive conception to practice. The sub-professional, particularly if he is in scientific work, may be required to sign a future invention assignment contract. If not, his inventive status is considered to be much the same as that of a general employee. The professional employee is usually hired to invent or is under contract to assign his future inventions.

The supervisor is as a rule not a contract employee, but in his inventions employer's "shop rights" frequently arise. An executive employee's inventions are not usually subject to an employer's rights therein, although there has been a recent judicial tendency to find conduct by which he impliedly agrees to assign his inventions to his employer even with a related field. The ownership of a business does not, as such, effect in the employer ownership of the inventions of the employee-owner. Rights in the inventions of an independent inventor depend entirely upon a contract relationship.

The administrative practices of private employers with respect to the inventions of their employees are not uniform, although they are generally related to the limits of established judicial doctrine. Some employers provide incentives for inventing, others do not. Employees may then in some instances be reluctant to sign future invention assignment contracts. Labor unions provide no ready answer to proper rewards for the inventing employee, principally because their membership is com-



posed in measure of non-inventing employees. Some union-management agreements treating with employees' inventions may be found, most frequently in the aircraft industry. These show unfamiliarity with and even diffidence toward employee inventive problems.

#### ADMINISTRATION BY GOVERNMENT AND NON-PROFIT INSTITUTIONS

Until the promulgation in 1950 of Executive Order 10096 the Federal Government's administrative practices with respect to the inventions of its employees were not uniform, except to the extent provided by judicial doctrine and qualified by statute. By legislation, Patent Office employees are barred from patenting inventions; other Federal Government employees may not sue their employer for the tortious use of their inventions but may be entitled to a patent on their inventions if they issue a license therein to their employer. These employees may bring a contract action against their employers for the use of their inventions or they may seek payment for such use by way of a Special Act of Congress.

Executive Order 10096 prescribes the employees whose inventions presumptively belong to the Federal Government. Such Order is apparently intended to bring about administrative uniformity in nearly all Federal Government executive departments within the framework of judicial doctrine. The National Science Foundation Act of 1950 is intended to do for the Federal Government contractor in basic research what that Order does for the Federal Government employee.

University patents and medical patents have in the past been dedicated to the public. There is some indication that the universities are presently reexamining their patent policies.

#### CONCLUSION

A "shop right" is a restricted form of license in an employee's invention which the courts have made available to the employer if he makes a non-inventive contribution to that invention. Where there is a communication of an inventive conception by one to another for the purpose of having that other for a consideration of employment or otherwise reduce that idea to practice, the inventive idea as a matter of inventorship encompasses the embodiment of that idea and the employee's incidental inventions thereto falling short of independent inventions. It is possible that *Agawam Woolen Co. v. Jordan*, in appending the incidental to the primary invention, failed to make an analysis of the parties and their respective contribution before determining ownership of the completed invention.

A hiring to invent or improve may include an invention arising out of duties incident to such a hiring. Contracts for the assignment of an employee's future inventions or improvements generally may not be



implied. Such contracts do not contravene public policy if they are limited in time, space, and subject matter, the limits, however, for inventions being different from those for improvements. In consequence, there is still for determination the dividing line between invention and improvement; the subject matter of invention and improvement; and the subject for such a contract.

No survey has been attempted to determine invention; the importance of the inventing employee; the status of the research worker; the effect of the monopolization of inventive talent; the substantive and remedial rights of the employer; the patent system; the rights of foreign employee inventors; or the patent policies of private employers and the Federal Government.

The problem which requires resolution, that is, the question of adequate inventive incentives and awards for employees, lies outside judicial doctrine. This might in time be considered by the courts. The large scale hiring of inventing employees by the Federal Government might also eventually bear on this situation, as may also the measured pace of legislation. Labor union means do not, however, seem suited to this purpose. In this regard, it would seem that professional societies could be of some limited assistance to their members. Undoubtedly some sound conclusions might be reached from administrative practices of private employers, if these should ever be made available to a survey conducted under academic auspices.

At present no across-the-board solution to this problem appears imminent, except through the education of the employee to his legal rights and employer calibration of rewards to the employee's inventive contribution.

## ASCENDANCE OF THE FEDERAL CORPORATION

by WALTER KIECHEL, Jr.\*

The federal government today is big business. This familiar cliché is literally true when applied to those present-day activities of our government which fall outside the realm of traditional governmental functions. The Hoover Commission found that the federal government owns or is financially interested in about one hundred important business enterprises. The direct investment of the government in such enterprises exceeds twenty billion dollars, with further commitments authorized up to fourteen billions. The great majority of these "businesses" are administered through the seventy-five active federal corporations.

The constitutional basis of federal corporations rests upon two fundamentals of our constitutional law. First, the federal government is one of limited and delegated powers; secondly, it may do whatever is necessary to exercise its functions as long as the limits of those delegated powers are observed. The implied power of Congress to create any instrument facilitating the exercise of an expressed power was not universally accepted in the early years of our government. Legislation creating the First Bank of the United States was enacted by the Congress and signed by President Washington amidst many misgivings as to its constitutionality. Such misgivings were later put to rest by the Supreme Court in the celebrated case of *McCulloch v. Maryland*. In holding invalid the tax levied on notes of the Bank by the state of Maryland, the Court speaking through Chief Justice Marshall articulated the sweeping powers of the federal government as to the creation and maintenance of public corporations.

The modern era of the federal corporation commenced in 1902 when Congress authorized the purchase of the stock of the Panama Railroad Company. It had become apparent by the time of World War I that the government corporation possessed several attributes most suitable for an emergency agency—freedom from government restrictions as to borrowing and spending, freedom from governmental audit and accounting systems, freedom of administration and contract, and the absence of civil service regulations in employment. Consequently, the corporate device was widely employed during the war period. Another emergency, the economic depression, prompted the organization of many of the present-day corporations. The decade of the 1930's was a dynamic period for government corporations; it was a time of great expansion and flux with little thought given to organization. It became apparent that the existence of numerous corporations, each answerable directly to the

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President, was not practical or efficient. Congress empowered the President to make certain reorganization of the administrative agencies and pursuant to that authority, President Roosevelt consolidated all institutions dealing with agricultural credit under the Farm Credit Administration. The President also appointed a Committee on Administrative Management (the so-called Brownlow Group) to study the situation and make appropriate recommendations. This Committee concluded that corporations could best be integrated into the governmental structure by distributing them among the executive departments. The reorganization plans of 1939 brought all of the previously independent corporations except the Tennessee Valley Authority and the Federal Deposit Insurance Corporation within the confines of the old-line departments or agencies, although the Reconstruction Finance Corporation and the Export-Import Bank are now classified as independent agencies.

Another indicium of corporate autonomy, freedom in personnel practices, was soon to disappear. By executive order in 1938 and the Ramspeck Act of 1940, every government corporation except the Tennessee Valley Authority was brought under the regular civil service laws. The trend toward fiscal restrictions on the corporations was interrupted by World War II, during which the corporate device was used extensively, but reached its culmination in the postwar period. The general disenchantment with the free-wheeling government corporation had its inception in the late '30's and was caused mainly by the over-use of this convenient device. Financial freedom was the essence of government corporations and one of the principal reasons for their popularity. Probably the most controversial aspect of the whole question was the extent to which government corporations were subject to the settlement and adjustment process of the General Accounting Office. Corporations enjoyed near immunity from General Accounting Office procedures for some time after the establishment of that office in 1921, but by executive order in 1934 all New Deal corporations were subjected to the settlement and adjustment process. Another traditional exemption of government corporations was in the field of budget controls; since most corporations were self-sustaining, there was no need for congressional appropriations and inclusion of their financial needs in the budget. The Budget Bureau gradually acquired some degree of jurisdiction over most of the corporations and passed on corporate "administrative expenses" which were included in the budget and made the subject of annual appropriations.

The great diversity of fiscal controls imposed on the various government corporations ended with the Government Corporation Control Act of 1945. This Act provided for General Accounting Office audit of the corporations but specified a commercial type audit and not the settlement and adjustment procedure. The Act further provided that the budget



include business-type budgets for each corporation with affirmative action by Congress unnecessary if the corporation had sufficient funds. A 1947 amendment to the Act made explicit the authority of Congress to place limitations on the use of corporate funds in its consideration of the annual budgets of the corporations. The Act brought the corporations under the general supervision of the Secretary of Treasury with respect to the custody of funds, issuance of bonds, and dealings in government obligations. The Act also prohibited incorporation under state law and provided a method whereby on the recommendation of the Director of the Budget with the approval of the President, Congress could divest a government corporation of its corporate status.

The history of the Federal Subsistence Homesteads Corporation (and its successors) gives an insight into the problems of organization, operation, and termination of a federal corporation. In recognition of the overbalance of population in industrial centers, the National Industrial Recovery Act of 1933 made available to the President the sum of twenty-five million dollars for the extension of loans and other aid for the purchase of subsistence homesteads. The President delegated his powers to the Secretary of the Interior, who selected the corporate form for the administration of the program and caused the incorporation of the Federal Subsistence Homesteads Corporation under the laws of Delaware. The Corporation acted as a holding company with subsidiary corporations formed for each of the subsistence homesteads projects. The legality of the Corporation was challenged by the Comptroller General on the grounds that no specific authority had been conferred by law for its organization under the laws of Delaware and that the Corporation had not been brought into existence through necessity as the only possible means of carrying out a statutory duty. The additional question of whether the Corporation was subject to the settlement and adjustment process of the General Accounting Office was resolved by the aforementioned executive order. With this order, one of the principal advantages of incorporation disappeared; consequently, the subsidiary corporations ceased operations although the parent Corporation continued to serve as the operating arm of the program.

One of the most urgent legal questions was whether the homestead properties would be subject to taxation by state and local authorities, if title were taken in the Corporation. Unlike the customary situation in which the federal agency resisted the payment of local taxes, the administrators recognized the importance to their program of compensating the local governments for losses in revenue occasioned by establishment of their projects. The problem was solved by legislation permitting agreements with local taxing units for payments in lieu of taxes. A related problem was whether general civil and criminal jurisdiction over

subsistence homestead communities would be exercised by the United States or the state in which located. The consequences of such communities coming within the exclusive jurisdiction of the United States were many and for the most part undesirable as far as the administrators and participants were concerned. The ultimate solution was legislation by Congress disclaiming any civil or criminal jurisdiction over such projects. The establishment of subsistence homestead communities raised other questions of federal-local relations, including the application of local zoning laws and building regulations.

The property and functions of the Federal Subsistence Homesteads Corporation were transferred by executive order in 1935 to the Resettlement Administration. The Corporation was retained to simplify the holding of the property and completing of unexecuted contracts, but in 1939 its charter became void for nonpayment of Delaware franchise taxes. Subsistence homesteads projects continued to be administered by the Resettlement Administration and its successor, the Farmers' Home Administration, with progressively greater Congressional limitation of the program. All projects except those used for public housing have now been liquidated.

The evolution of the legal status of government corporations has provoked a variety of judicial formulae and attitudes. The Supreme Court has held that government corporations are capable of suing and being sued even though the particular charter or enabling legislation contains no express provision for suability; they have also been held subject to various "incidents of legal proceedings" including attachment and garnishment, court costs and interest, counterclaim and set-off. It appears that federal corporations are denied the governmental priority on claims as well as immunity from statutes of limitation. Where a governmental privilege does not represent an attribute of sovereignty such as right to government rate on transportation or telegrams, the corporations have been regarded as regular departments of the government and thus entitled to the privilege. In their relation with the states, government corporations occupy the position of ordinary government departments, and in the absence of federal legislation providing otherwise, enjoy freedom from taxation or regulation by the states.

Until the appointment of the President's Committee on Administrative Management in 1936, no reorganization study had specifically considered the place of the government corporation in the executive organization. The Commission on Organization of the Executive Branch of the Government, better known as the Hoover Commission, created in 1947, dealt with government corporations in its report on *Federal Business Enterprises*. Like the Brownlow Group, the Hoover Commission was positive in its general endorsement of government corporations and rec-



ommended that certain other government agencies be incorporated. It did find undesirable diversity in the charters of the various corporations and numerous organizational deficiencies. The Commission recommended the abolition or recognition of the indirect subsidies which the corporations enjoy. The majority of the Commission recommended that Congress reexamine the direct lending activities of certain corporations, that the thirty-seven agricultural credit corporations be merged into a single agency to operate on the principle of "mutualization," that the Secretary of Treasury have supervision over the Reconstruction Finance Corporation, Federal Deposit Insurance Corporation, and the Export-Import Bank, and that the Inland Waterways Corporation be liquidated.

The progress on the Commission recommendations as to government corporations has been unspectacular. The great obstacle has been the fact that most of these recommendations can be effectuated solely through substantive legislation and only a few by reorganization plan or administrative action. The Reorganization Act of 1949 authorizes the President to submit plans of reorganization to Congress, such plans to become effective in sixty days unless a resolution of disapproval is passed by either House. The Reconstruction Finance Corporation has been the subject of all the approved reorganization plans concerning government corporations. In accordance with the Commission recommendation, the Senate authorized a study of the lending policy of the Corporation; the findings of the Subcommittee of the Banking and Currency Committee making such study were generally unfavorable to the Corporation, particularly the highly publicized interim report, *Favoritism and Influence*, which concluded that the integrity of the Corporation had become impaired as a result of the division of managerial responsibility among the five members of the board of directors. This report was followed shortly by the President's submission to Congress of Reorganization Plan No. 1 of 1951. This plan which became effective April 30, 1951, vests the management of the Corporation in a single Administrator, replacing the board of directors.

The public corporation has been used in many different forms and within decidedly varied political and economic systems. The corporation is the "chosen legal instrument" of the Labor Government in Great Britain in its nationalization program. The English corporations are of two types—the commercial or industrial corporation proper and the social service corporation. There are certain general characteristics common to both types: the English corporation has no shares and no shareholders; its responsibility is to Parliament through the particular minister; the administration of the corporation is entirely in the hands of a board appointed by the Minister; the capital of the public corporations administering nationalized industries is provided through assets



taken over from private ownership and capitalized through the issue of interest-bearing stock, while the assets of the other corporations consist of stock with a Treasury guarantee; the public corporation has the legal status of a corporate body with independent legal personality; and all public corporations are subject to governmental audit and some measure of public control but possess considerable autonomy and legal independence.

The Hoover Commission studies raise the question of whether the government corporation is a permanent part of our governmental structure. Unquestionably, the future of a particular government corporation—the matter of individual permanence—is a question of policy to be determined by those in control of the government. Furthermore, the use of the government corporation as a means of carrying out a particular political philosophy or program represents the effect and not the cause of that political program. The extensive utilization of the government corporation in this country in the past generation does not in itself mean that we are being drawn along the road to socialism, although the conditioning effect of this past use should not be discounted or overlooked. The continuation on a large scale of the government corporation is mainly dependent upon its past record as an administrative agency. Many of the accomplishments of the government corporation can be attributed to its efficiency in management, permitted by its right to manage its own affairs subject to the establishment of general policies by Congress or members of the executive branch. In addition to managerial autonomy, the corporation has the advantage of self-contained finance. Although the Corporation Control Act instituted audit of the government corporations by the General Accounting Office, this audit is in accordance with the principles and procedures applicable to commercial corporate transactions. The Control Act did not affect the chief fiscal characteristics of government corporations which make possible a flexibility of operation fundamental to standard commercial practice. These characteristics include freedom from the detailed restrictions imposed upon the regular agencies with respect to disbursements, contracts and purchases, authority to settle claims by and against the corporation, and financing on a broader basis than that contemplated by direct annual appropriations, including authority to use and reuse revenues with capital fund financing usually substituted in lieu of direct appropriations. In addition to initial capitalization, many of the federal corporations, particularly the banking and credit corporations, have secured supplementary funds through their borrowing powers. The outstanding record of the merit system of the Tennessee Valley Authority stands as an example of the possible accomplishments of a government corporation in personnel management. Other desirable attributes of the corporation

include its corporate personality with many of the legal characteristics of a private corporation, the decentralization of operations possible under the corporate form of administration, and its adaptability as a temporary expedient.

On the other side of the ledger are the abuses which the financial independence of the corporation has engendered, including lessened responsiveness to Congress on matters of policy, short-cut financing by the Reconstruction Finance Corporation in instances where direct appropriations would be more suitable, and the indirect subsidies, including the subsidy resulting from the investment of the capital funds of the corporations in interest-bearing securities of the United States. There seems no good reason for the perpetuation of the capital stock fiction in government corporations since the requirements peculiar to ownership of private corporations which have caused the employment of the capital stock device have no counterpart in government corporations. Indirect subsidies have maintained the illusion that many of the government corporations are self-supporting when this is not always the case. Because of their financial freedom, government corporations are more inclined to indulge in "incidental" functions than other government agencies, and are better equipped to resist termination of their activities.

In measuring the adaptability of the government corporation for future use, it appears that better coordination between the corporations and other executive agencies must be achieved; integration into the federal system of prospective additional valley authorities in a manner acceptable to the states concerned poses another difficult problem. Nevertheless, the government corporation offers the best chance of efficient and successful management of new governmental activities of any form of administrative agency yet devised. The British experience shows that the corporation could be used as a transitional device for a swing to socialism in this country. On the other hand, the conclusions of the bipartisan Hoover Commission indicate that the corporation is regarded as a means of preserving and improving our present system of government. Whatever political philosophy it may be called upon to serve, the government corporation, although more restrained in its future manner of operation, will continue to play a significant part in the administration of the federal government.

SUMMARIES OF DISSERTATIONS  
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## THE NATURE OF AND PROVISIONS FOR THE PROBLEMS OF BEGINNING MALE COLLEGE STUDENTS

by JOHN CARL LANG\*

### THE PROBLEM

The purpose of this study is, (1) to determine the kinds of problems encountered and identified by beginning male students in certain colleges and universities, (2) to determine the intensity and persistency of these problems throughout the first year of college, and (3) to obtain the judgments of the deans of students, academic deans, and second year male students in these institutions as to what extent these problems are the responsibility of the college or university, and how they could be alleviated. The expression "beginning student" is used to refer to students enrolled in the first and second semesters or first three quarters of the first year, who are taking first year programs in colleges and universities. The expression "second year students" refers to students enrolled in the third or fourth semesters or fourth, fifth, or sixth quarters of the second year, who are taking second year subjects.

Among the questions considered by the study are:

1. What are the kinds of problems encountered by beginning male students in the colleges and universities in which these students are enrolled?
2. How do the problems reported by the students shift in nature during the first year of college?
  - a) Are there problems which are peculiar to either the first or second semester or to the first and third quarters of the first year?
  - b) What problems tend to persist throughout the first year of college?
3. What are the reactions of student personnel administrators, academic deans, and male sophomores in higher education to the following questions:
  - a) To what extent should your institution assume the responsibility for each of the identified problems?
  - b) What services does your institution now offer to assist beginning male students with each particular area of difficulty?
  - c) What additional services might your institution offer to assist beginning male students in alleviating the identified problems?

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## PROCEDURE

After a review of the literature was made, a comprehensive check list of the problems encountered by beginning students was developed by calling together in small groups beginning students in nine institutions of higher learning throughout the country. A total of 810 students was contacted in these universities and colleges for the purpose of discussing student problems as the students themselves recognized them. During these discussions the purpose of the study was explained, forms for reporting problems were distributed, and time was provided for the students to describe their problems.

Meetings were also held with small groups of beginning students selected at random from larger groups of the same student body at the same institutions for the purpose of getting them to discuss as freely as possible the nature of the problems they had encountered. A summary of the problems discussed in the meetings was used to determine whether or not new problems had come to light.

In order to obtain a check on the method used in the first approach, a different method was used with another group of beginning male students in seven additional institutions. A total of 645 students was contacted. In this second approach the students were requested to write a letter to a high school friend who planned to attend college next year. The letter was to include good suggestions and advice to help the friend get off to a good start in his college career. The letters were analyzed to determine specific problems mentioned to see if any new problems were implied.

The problems reported by 1,455 beginning students from sixteen universities and colleges that volunteered special cooperation were tabulated and analyzed for future use. Then the problems as reported by students were classified into areas according to specific types, and a preliminary check list or questionnaire was developed from the problems reported. The preliminary questionnaire as developed from the reported problems was given to 428 beginning students. The results were used to refine the questionnaire and develop it into a data-gathering instrument.

The questionnaire of problems thus developed was administered to 2,984 male students in thirty-two institutions during the thirteenth to sixteenth weeks of school. The same questionnaire was again administered to 2,715 of the same male students who had taken the first questionnaire. In each administration of the questionnaire the students were asked to indicate how much of a problem each of the items is or had been to them. Cooperation in the study was assured by having persons known to the investigator responsible for the administration and collection of the instrument each time. The group of students on each



campus was known by these persons as a group but not known to them or to the writer as individuals.

The data was analyzed for the purpose of determining the nature, intensity, and persistency of the problems encountered by beginning students. A summary of the study was then prepared. All the problems as indicated by the students were classified into areas. The summary, the classified areas, and the problems under each area were mailed to the deans of students and academic deans in the thirty-two universities and colleges studied and to 998 second year students in these institutions. The deans of students, academic deans, and the male sophomores were asked to indicate for each problem or each of the areas of problems to what extent they thought their institution should assume the responsibility for each of the problems, what services are now available at their institutions to assist students with the problems, and what additional services their institutions might provide.

The thirty-two institutions used in the study are geographically distributed throughout the United States. Approximately one-thirtieth of the total number of institutions within each of the regional accrediting associations were used. The thirty-two universities and colleges are institutions offering liberal arts and professional courses. Fifteen of the institutions are privately controlled. The others are publicly controlled. The enrollment for first time male students ranged from 433 to 3,933 in the participating institutions, and the total male enrollment ranged from 2,586 to 14,733. The students participating in the study were students enrolled in Schools of Education, Liberal Arts Colleges, Schools of Business, Schools of Speech, and Engineering Schools.

#### FINDINGS

##### *Kinds of Problems Encountered by Beginning Male Students*

The kinds of problems encountered by students were grouped under each of the following broad general areas:

##### *Academic*

1. *Reading and study habits*—budgeting time, starting school work promptly, concentrating, thinking through problems, studying for examinations, selecting important facts, and reading with adequate skill.
2. *Nature of college courses and instruction*—getting used to lecture courses, getting used to the heavier class load in college as compared with high school, taking good lecture and reading notes, getting used to difference in methods of teaching compared with high school, grade requirements, academic pace, heavy outside reading, choosing the right courses, arranging class schedules, and dissatisfaction with courses.

3. *Student-teacher relationships*—inadequate explanation of assignments, arranging conferences with faculty, finding out about academic standards and progress, getting adequate attention to individual needs, and poor distribution of class requirements.

4. *Administration problems*—waiting for reply to application of admission, lack of information on occupations and professions, getting pre-registration information about courses, and poor study conditions.

5. *Inadequate previous preparation*—academically not prepared by high school for college work.

#### *Social*

1. *Budgeting time*—finding enough time for social activities and keeping down the time given to social activities.

2. *Lack of activities*—finding suitable places to go on a date, not enough social activities—especially those sponsored by the institution.

3. *Information about extra-curricular organizations*—getting information about clubs, fraternities, and information concerning the advantages and disadvantages about belonging to fraternities.

4. *Feeling of social incompetence*—getting dates, meeting people and getting acquainted, and learning to dance.

#### *Financial*

Students indicated that they had difficulty in budgeting their money, getting part-time jobs, having enough money, finding out about scholarships, and being able to participate socially because of lack of funds.

#### *Personal*

1. *Emotional problems*—inner conflicts, adhering to ideals, worry over home conditions, inferiority complex, loneliness, and homesickness.

2. *Personal welfare problems*—where to get advice on personal problems, finding a good place to eat, finding suitable living quarters, poor living accommodations, living away from home for the first time and looking after one's own personal housekeeping, utilizing leisure time, finding out about the school's medical services, and getting the needed medical attention.

#### *Degree of Difficulty of the Problems to the Students*

At the end of the school year, the twenty most difficult problems ranked as follows:

Rank	Problems
1.	Getting started on school work promptly
2.	Budgeting time for academic work
3.	Concentrating when studying
4.	Thinking through problems
5.	Getting used to the heavier class load in college as compared with that in high school
6.	Keeping up with all the extra outside reading
7.	Doing lessons because of inadequate explanation of assignments
8.	Picking out the important facts in study material
9.	Studying for examinations
10.	Keeping up with the academic pace
11.	Waiting for the college to answer application for admission
12.	Dissatisfaction with courses
13.	Coping with academic demands because the class requirements are not equally distributed throughout the course
14.	Taking good lecture and reading notes
15.	Finding enough time for social activities
16.	Properly budgeting money
17.	Unsatisfactory study conditions
18.	Inadequate high school preparation
19.	Getting adequate attention to individual needs and capacities
20.	Finding out what the standards are in various classes

The above problems represent one-third of all the difficulties identified. All but two of the items are listed under the broad general area of Academic Problems. Finding enough time for social activities and properly budgeting money rank fifteenth and sixteenth respectively. The other eighteen items listed have a definite relationship to one another. All of them are concerned with the student's personal adjustment to studying and his adjustment to his scholastic work, rather than any difficulty with university administration. Only one item of the eighteen academic problems deals with administration, and that is the problem of waiting for the institution to answer the application of admission. It is quite evident that the students considered academic problems of primary importance.

#### *Shifting of Problems in Intensity and Persistency During the First Year of College*

The coefficient of correlation for the academic problems was found to be .95 and the probable error was  $\pm .01$ . The coefficient of correlation for the social problems was .99 and the probable error was  $\pm .00$ . The coefficient of correlation and the probable error for the personal problems was the same as for the social problems. The rank order of the financial problems was identical between the first and second administration of the questionnaire. This indicates that the persistency of the problems, in the opinion of the students, was extremely high, and



that very little change in the degree of difficulty took place between the end of the first semester and the end of the school year.

Although the rank order of difficulty of the problems to the students between the first and second administration of the questionnaire remained approximately the same, the intensity of some of the problems did increase or decrease. The greatest increase in intensity was noted in the financial and personal problems, while the greatest decrease appeared to be among the academic problems. The social problems remained approximately the same in intensity.

#### *Institutional Responsibility for the Problems of Beginning Male Students*

In general, students were more conservative in assigning responsibility for various problems to the institutions than were the deans. Academic deans were more conservative in this respect than were the deans of students. On the basis of rank order, students and deans generally agreed on the importance of the problems for which the institutions should assume the responsibility.

In the matter of academic problems, students and deans basically agreed that the institutions should assume their greatest responsibility in the problems listed under *administrative problems*, and that they should assume the least responsibility for the problems listed under *reading and study habits*. In social problems, the greatest degree of responsibility was indicated in the problems dealing with giving out and obtaining information about social activities. Again, these were not the most troublesome problems to beginning students. The same general pattern holds true for financial and personal problems except on the problem *where to go to get advice on personal problems*. On that problem, the degree of difficulty and the degree of institutional responsibility indicated are almost correlative.

#### *Student Personnel Services Available and Desired*

*Academic Area.*—It was found that students indicated a greater concern over reading and study habits than they did over any other group of academic problems. It is in this area that students and deans indicated considerable disagreement over the availability and non-availability of the services. It was quite apparent that students are eager for more personal counseling by an adviser with whom they can discuss their academic problems freely. This was particularly shown in the free responses given by the students.

In the matter of student-teacher relationships, students repeatedly expressed the desire to meet their instructors on a basis other than the classroom situation. They also expressed a great desire for competent

vocational counseling and for testing services without charge. A number of students suggested that colleges and universities and secondary schools work more closely with each other toward better preparation of the students for college.

Basically, the students were in considerable disagreement with the deans on the availability of student personnel services in this area. The disagreement varied on a per cent basis from 1 per cent to 53 per cent between students and deans of students and from 4 per cent to 46 per cent between students and academic deans. The students and deans agreed most nearly on the question that "how-to-study" courses are not required of all freshmen. The service on which students and deans of students were in greatest disagreement was "assistance to students in making a time-study analysis." Eighty-seven per cent of the deans of students stated that the service is available while only 33 per cent of the students stated likewise. The greatest disparity between students and academic deans occurred on the item regarding the availability of "remedial instruction in reading". Ninety-four per cent of the academic deans said that the service was available, but only 48 per cent of the students agreed with this response. The deans of students and academic deans were in very close agreement regarding the availability of all services.

*Social Area.*—Students were in accord that the difficulty of budgeting of time in the matter of social problems was chiefly a difficulty that each must solve for himself. In this respect, academic deans tended to agree with the students to a greater degree than did the deans of students. Deans of students indicated that in general the services for the social area were adequate. Students seemed to feel that although the matter of budgeting time offered them a great deal of difficulty, nevertheless it is a personal problem and is not the responsibility of the institution.

In general, all respondents indicated that they were quite well informed regarding the availability of social activities. There was a mixed feeling on the part of the students regarding the services that the school should provide for this area of social difficulty. Some students felt that finding social activities was an individual problem while others thought that the institution should play a greater part in providing social activities. There was little agreement noted between the responses of the deans of students and the academic deans. Deans of students felt that the school should assume considerable responsibility while academic deans generally felt that the participation in social activities by students was already overdone.

The respondents felt that information available about extra-curricular organization was fairly adequate except for personal counseling and provision to enable each student to belong to at least one social organiza-



tion. Though personal counseling seemed to be available on most of the campuses according to the responses of the deans, only 40 per cent of the students manifested a knowledge of such service. Students indicated that the provision for each student to belong to at least one social organization was not available. Many of the students also indicated that they would like to know more about fraternities—what they mean and how they operate.

Students also felt that more services should be available to assist students to overcome social incompetence. They indicated that less than 50 per cent of the schools provided for learner's classes in dancing. Yet students freely indicated that such classes are highly desirable. Although deans of students and academic deans indicated that social counseling was available, student responses indicated a lack of knowledge of this service.

*Financial Area.*—According to the deans of students and the academic deans, the universities and colleges are providing adequate services to assist students with financial problems. Over 90 per cent of the deans stated that all the financial services listed in the study were available except two. The two services that seemed to need attention are financial counseling and direct aid for the needy students. Students indicated that they were not aware of the availability of many of the services that the deans stated were in existence.

*Personal Area.*—About 90 per cent of the deans of students stated that adequate services were available to assist students with emotional and personal welfare problems. The academic deans were more conservative than deans of students in their responses as to the availability of services to assist students with these problems. Approximately 80 per cent of the academic deans basically agreed with the deans of students as to the availability of services in this area.

The students were even more conservative in their responses. Thirteen per cent of the students stated that emotional counseling service was available, as compared with 83 and 84 per cent respectively for deans of students and academic deans. The student responses clearly indicated that some of the students lacked information on the availability of many of the services in this area.

#### RECOMMENDATIONS

The following suggestions are offered for the improvement of student personnel services:

1. Universities and colleges should provide a systematic procedure to help students with their reading and study difficulties.



2. Universities and colleges need to notify students of their admission to the institution earlier.
3. A more effective orientation program for beginning students is essential.
4. Remedial and clinical services for scholastic and emotional difficulties should be made available to all students who are in need of the service.
5. Greater opportunity for testing and counseling services should be provided for all students with due regard for the student's economic status and preferably at no cost.
6. An efficient method of informing students of the student personnel services which are available is necessary.
7. Universities and colleges should provide an opportunity for all students to belong to at least one social organization, if they so desire.
8. Greater provisions need to be made toward accelerating the more capable student.
9. More adequate facilities are required for individual counseling service.
10. Greater provisions should be made to assist students in the selection of courses and in determining fields of concentration.
11. Greater stress should be placed on the purposefulness of subjects taught by every instructor.
12. Institutions should take positive steps to provide more effective procedures to insure adequate communications among all members of the university including the students.
13. Institutions should assume greater responsibility for providing special services for those students who are not adequately prepared for college in high school.
14. Greater opportunity should be provided where students and faculty members have occasion to meet in situations other than the classroom.

#### CONCLUDING STATEMENT

The data of the study indicate three major findings. First, a remarkable degree of agreement was evidenced among the student respondents regarding the kinds of problems that beginning male college students recognize. It was also found that the persistency and intensity of the problems remained almost constant throughout the first year of college. Second, a great deal of disagreement was indicated among the responses of the second year male students, the deans of students, and the academic deans as to the facilities that are available to assist beginning students with their problems. A very important institutional communications problem is thus revealed. Third, a remarkable degree of agreement was indicated among all respondents concerning the responsibility of universities and colleges in helping students to alleviate their problems.

## THE ADMINISTRATION OF THE PROFESSIONAL UNDERGRADUATE PROGRAM OF TEACHER EDUCATION IN VIRGINIA

by LUTHER CECIL McRAE \*

### The Problem

This is an evaluative study of the administration of the professional undergraduate program of teacher education in Virginia's senior colleges and universities. Administration, as used in this study, includes the administrative and supervisory policies and practices affecting the undergraduate professional preparation of teachers in those institutions of higher education. Content of offering has been considered only to the extent that it represents the administrative policies and/or practices of the institutions included in the study.

This study has been considered from the following broad areas involving administration: (1) facilities and activities available for teacher education in college or university and in training schools, (2) financial arrangements between institutions and cooperating schools, (3) qualifications of teachers most directly concerned with the professional preparation of prospective teachers, (4) recruitment and selection of prospective teachers, (5) practices relative to college courses and the preparation of teachers, (6) professional orientation and induction of prospective teachers into student teaching, (7) practices relative to supervised student teaching in the training schools, (8) evaluation, (9) placement, (10) follow-up, and (11) student teaching and public relations.

### Procedure

Based upon a careful review of teacher-education literature, standards were formulated for use in evaluating these eleven areas of the administration of the professional undergraduate programs of teacher education in Virginia's institutions of higher education.

To facilitate the accumulation and tabulation of data a lengthy survey instrument was prepared. This instrument was sent to designated representatives of the 22 Virginia colleges and universities preparing qualified teachers, and it was used during visits by the investigator to institutions as a guide for detailed interviews.

### Standards

As a result of the examination of the literature of teacher education, the following standards for evaluating the administration of the professional undergraduate programs of teacher education in Virginia's senior colleges and universities were formulated.

\* A.B. 1927, Ed.M. 1928, Duke University; Ed.D. conferred November 12, 1951.

## **FACILITIES AND ACTIVITIES**

### **STANDARD ONE**

1. Library, laboratory, shop, and other facilities in a teacher-education institution should be developed to meet adequately the needs of a carefully planned teacher-education curriculum designed for that institution.

2. Library, laboratory, shop, and other facilities in cooperating training schools should parallel facilities in the parent teacher-education institution and should be developed to meet the needs of student teachers operating in such schools as well as the needs of pupils enrolled in such schools.

### **STANDARD TWO**

1. A broad program of student activities should be developed in each teacher-education institution, and student teachers should be required to participate as contributing members in such activities according to individual interests, aptitudes, and needs.

2. A broad program of pupil activities should be developed in each cooperating training school; and student teachers should be required to participate in such activities as co-sponsors in accordance with individual interests, aptitudes, and needs.

### **STANDARD THREE**

Each teacher-education institution should survey the institution's community area to determine all community resources that can be used as educational media for developing the social competence of student teachers; and institutional counselors should guide student teachers into active participation as contributing members of such social agencies in the college community and/or the communities of the cooperating training schools.

## **FINANCIAL ARRANGEMENTS**

### **STANDARD ONE**

College or university authorities should accept the responsibility for assuming their equitable share of the salaries of supervising teachers.

### **STANDARD TWO**

College or university authorities should accept the responsibility for assuming their proportionate share of the cost of instructional materials used in training schools.



## QUALIFICATIONS OF TEACHERS RESPONSIBLE FOR THE PROFESSIONAL PREPARATION OF PROSPECTIVE TEACHERS

### STANDARD ONE

The Master's degree, or its equivalent, should be considered the minimum requirement for the preparation of staff members of all higher educational institutions in which teachers are prepared; and the Doctor's degree, or its equivalent, should be emphasized as a prerequisite for new permanent appointments.

### STANDARD TWO

Staff members engaged in teaching prospective teachers should possess such experiential background as to guarantee firsthand knowledge of all major problems to be faced by prospective elementary and secondary school teachers and administrators in the field.

### STANDARD THREE

Each institution preparing teachers should insure inter-departmental cooperation among all departments participating in the professional preparation of prospective teachers.

### STANDARD FOUR

Those staff members most directly concerned with the professional preparation of prospective teachers should display a capacity and desire for continued professional growth and cooperation with colleagues.

### STANDARD FIVE

The Master's degree, or its equivalent, with special training in teacher education and supervision, should be considered the minimum formal requirement for the preparation of supervising or critic teachers.

### STANDARD SIX

Supervising teachers should have an experiential background sufficient to make them thoroughly conversant with the major problems in the school area in which they are supervising student teachers.

### STANDARD SEVEN

Supervising teachers should display a capacity and a keen desire for continued professional growth.

## RECRUITMENT AND SELECTION

### STANDARD ONE

Each four-year, degree-granting college engaged in teacher education in Virginia should have operative a systematically planned program for the recruitment of well-qualified young men and women from high school and its own college population for the teaching profession.

STANDARD TWO

Recruitment policy should allow for full consideration of the best interests of the individual and be guided by the principle that the ultimate responsibility of choice should be reserved to the individual.

STANDARD THREE

Each institution should use well-balanced, comprehensive batteries of criteria for the initial selective admission of freshmen to college and admission of upper classmen to teacher-education curricula.

STANDARD FOUR

Selection should be a continuous process from admission to placement, based upon sound guidance practices.

COLLEGE COURSES AND THE PROFESSIONAL PREPARATION OF TEACHERS

STANDARD ONE

Teacher-education institutions should provide a four-year sequence of professional experiences, graduated to the maturity and individual needs of prospective teachers and sufficiently flexible to allow for each individual.

STANDARD TWO

Faculty members of each teacher-education institution should cooperate wholeheartedly in the task of developing an integrating continuity in the students' professional and academic training.

STANDARD THREE

Each teacher-education institution should establish high enough standards of academic achievement and professional performance to make certain that only those student teachers who have attained total professional proficiency rather than the accumulation of credits from isolated and more or less unrelated courses are graduated into the teaching profession.

PROGRESSIVE INDUCTION INTO STUDENT TEACHING

STANDARD ONE

Each institution should provide for its prospective teachers a period of gradual induction into student teaching, including observation and participation, varying in length and nature according to the individual differences of student teachers.

## STANDARD TWO

Induction plans of each institution should provide for a thorough orientation of each student teacher into the total program of a school of the type in which he expects to teach as well as a thorough familiarization with the total program of the training school in which he is to do his student teaching.

## SUPERVISED STUDENT TEACHING

## STANDARD ONE

Each institution should adopt a definite policy relative to student teaching assignments. Such policy should include among its concepts:

1. Appropriate bases for admitting students to the student teaching phase of their professional preparation should be established.
2. Assignment of a student to student teaching should be made cooperatively by those staff members who are most fully acquainted with the individual student and the training school situation, and should be based upon the needs, interests, and abilities of the student teacher.
3. The length and type of student teaching assignment should be flexible and differentiated according to the ability, progress, previous experience, and future teaching position of each individual student teacher.

## STANDARD TWO

Student teaching experiences should be sufficiently varied and extensive to develop in the student teacher basic competency in the instructional and non-instructional activities of regular teachers.

## STANDARD THREE

College and training school supervisory staffs should, in cooperation with student teachers, plan each student's program of student teaching activities and then provide constant guidance during the period of student teaching.

## EVALUATION

## STANDARD ONE

Programs of evaluation should include the following concepts:

1. Evaluation of student teaching should be a cooperative venture among college staff, critic teachers, and student teachers.
2. Self-evaluation should be considered as one phase of the guidance program, enabling the student teacher to recognize and act upon his own strengths and limitations.
3. Evaluation of student teaching should be a continuing process and inclusive of all phases of the work of the student teacher.



### PLACEMENT

#### STANDARD ONE

A systematic placement program is the cooperative responsibility of all faculty members who instruct student teachers and the placement bureau staff.

#### FOLLOW-UP

Cooperative follow-up services should be provided by teacher-education institutions in order to provide for the in-service growth of beginning teachers and the improvement of the pre-service programs of the institutions.

#### STUDENT TEACHING AND PUBLIC RELATIONS

Each institution should make provision in its program of public relations for the proper recognition of the student teacher and student teaching activities.

### GENERAL EVALUATION OF THE ADMINISTRATION OF THE PROFESSIONAL UNDERGRADUATE PROGRAM OF TEACHER EDUCATION IN VIRGINIA

The existing administrative practices, as revealed by the study, were encouraging in some aspects but discouraging in others. In the opinion of the writer the strengths and weaknesses listed below are the ones meriting special consideration by Virginia's teacher educationists.

#### Discovered Strengths

1. The over-all quantitative adequacy of general facilities and student activities available in Virginia teacher-education institutions and their training schools.
2. Recognition by a large majority of the teacher-education institutions of their responsibility for assuming an equitable share of the cost of student teaching programs in off-campus training schools.
3. The extent of the experiential background of faculty members responsible for the professional preparation of prospective teachers.
4. An awakening realization of the need for a better planned system of recruitment and selection of prospective teachers from high school and college student populations.
5. An awareness of the desirability of providing through guidance an integrating continuity in the student teacher's professional and academic training period over a four-year period.
6. Recognition by teacher-education institutions of the importance of a period of gradual orientation and induction into the full responsibilities of student teaching.

7. An increasing realization of the desirability of using multiple bases for admitting prospective teachers to the student teaching phase of their professional preparation.
8. Flexibility of student teaching assignments.
9. An increasing tendency to provide an opportunity for student teachers to enjoy an extended period of total school experience.
10. Acceptance by college supervisors and supervising teachers of the many responsibilities involved in supervising student teaching.
11. Cooperation among the professional staff members primarily responsible for the teacher-education program.
12. Recognition by Virginia institutions of their responsibility for the placement of graduating student teachers.
13. An awakening interest in the importance of interpreting the student teaching program to all interested publics.

#### Apparent Weaknesses

1. Inadequate provision for special purpose facilities in teacher-education institutions and training schools.
2. Failure of student teachers to utilize fully the available facilities and activities in teacher-education institutions and training schools.
3. Lack of established bases for remunerating supervising teachers or for contributing to the cost of instructional supplies and equipment in the cooperating off-campus training schools.
4. Lack of advanced degrees held by college faculty members and supervising teachers who are responsible for the professional preparation of prospective teachers.
5. Lack of an established policy relative to experiential requirements for supervising teachers.
6. Lack of community-mindedness among professional staff members.
7. The apparent disinclination of professional staff members to engage in experimentation in the area of teacher education.
8. The present lack of well planned systems of recruitment and selection of prospective teachers from high school and college student populations.
9. The inadequate attention given to developing a four-year sequence of professional experiences graduated to the maturity and individual needs of prospective teachers.
10. Lack of definite policies relative to periods of observation required of prospective student teachers and number of observers per class.
11. Present policies of assignment of students to student teaching activities.
12. Failure to direct student teachers in the most effective utilization of available non-instructional opportunities in the training schools.

13. Inadequacy for screening purposes of present techniques for evaluating the professional performance of prospective teachers.

14. Lack of well organized placement and follow-up services for the graduated student teachers.

15. Lack of organized public relations programs for the proper interpretation of student teaching activities.

#### Recommendations

The recommendations for the improvement of the administration of the professional phase of teacher-education programs in the institutions of higher education in Virginia are set forth hereinafter in the eleven areas involving administration. In some instances recommendations are presented in two categories (1) those to be implemented immediately or in the near future and (2) those to be implemented after further research and study.

#### FACILITIES AND ACTIVITIES

##### IMMEDIATE IMPLEMENTATION

1. Teacher-education institutions should strengthen laboratory and clinical facilities within the institutions themselves and within their training schools.

2. Action should be taken to improve pupil activity programs in those training schools now having inadequate programs of this nature.

3. Each institution should designate a qualified college staff member to act as a consultant to the librarians of the training schools.

4. Community resources of value to teacher-education programs should be analyzed and incorporated into the curricula of prospective teachers.

5. College and training school staff members should guide student teachers into a more extensive use of all facilities and participation in selected activities available in both the college and the training school.

##### FUTURE IMPLEMENTATION

1. A committee of professional college educators should be designated by proper state authority to inaugurate an analytical study of all student activities now operating in teacher-education institutions for the purpose of determining which activities can contribute most to developing in prospective teachers those desirable traits so urgently needed in the teaching profession.

2. Professional teacher educationists should work closely with local school division officials in the planning of the new school plants which are to be used as training schools.



**FINANCIAL ARRANGEMENTS****IMMEDIATE IMPLEMENTATION**

1. Those institutions in Virginia which are not now accepting the responsibility for assuming their equitable share of the salaries of their supervising teachers should assume as soon as possible that responsibility.
2. Those institutions now contributing nothing to cooperating off-campus training schools for instructional materials and equipment should allocate such funds as soon as possible.

**FUTURE IMPLEMENTATION**

1. A properly constituted committee of Virginia's teacher educationists should make a thorough study of the factors to be considered in setting a scale for the institutional remuneration of supervising teachers and develop a formula to be used as a guide for such remuneration.
2. A similarly constituted committee should carefully analyze the requirements for instructional materials and equipment needed for efficient student teaching programs in each type of student teaching situation—primary, upper elementary, and high school classrooms, laboratory, physical education, music, art, and other special situations.

**QUALIFICATIONS OF TEACHERS RESPONSIBLE FOR THE PROFESSIONAL PREPARATION OF PROSPECTIVE TEACHERS****IMMEDIATE IMPLEMENTATION**

1. College instructors in the department of education without Doctor's degrees and supervising teachers in the training schools without Master's degrees should be required to pursue graduate study leading to advanced degrees.
2. College administrators in the field of teacher education should place emphasis upon the nature of doctoral preparation when a prospective appointee is being considered.
3. These college teachers engaged in the professional preparation of prospective teachers who have had no teaching experience in either elementary or secondary schools should be required to spend considerable time in the training schools to insure an appreciation and understanding of the teachers' problems in these schools.
4. Those college teachers directing the professional preparation of prospective teachers, who presently lack contact with and firsthand information about the training school situations, should be required to visit the training schools in which student teaching is being done sufficiently regularly to be thoroughly conversant with the purposes, needs, and activities of those particular schools.
5. Teacher-education institutions presently lacking an over-all advisory

committee on teacher education with representatives from all departments should organize such committees.

6. Officials at each institution should provide the opportunity for members of the department of education to engage in more experimentation, research, and interpretative writing.

7. Institutions preparing teachers should require that all supervising teachers have special training in supervising student teaching or have demonstrated their ability in supervisory situations.

8. Institutions should display due care in designating teachers in cooperating schools as supervising teachers.

9. Members of the departments of education should begin promoting immediately programs of continuing curriculum revision and classroom experimentation in teaching methods in the training schools.

10. Members of the departments of education should encourage supervising teachers to analyze their best procedures and to prepare descriptive accounts of same for publication.

#### FUTURE IMPLEMENTATION

1. A properly constituted committee of Virginia's teacher educationists should initiate a study to determine the proper amount and type of teaching experience which should be required of all teachers assuming the role of supervising teachers.

2. The same or a similarly constituted committee should initiate a study to determine what major qualifications other than training and experience should be considered essential when selecting supervising teachers.

#### RECRUITMENT AND SELECTION

##### IMMEDIATE IMPLEMENTATION

1. Each institution should place renewed emphasis upon contacting through presently available methods those well qualified high school seniors who have shown an interest in and an aptitude for teaching.

2. This recruiting procedure should be placed immediately upon a cooperative basis between secondary school and college officials.

3. In the implementation of a recruitment program college and secondary school officials should allow for full consideration of the best interests of the individual student and be guided by the principle that the ultimate responsibility of choice should be reserved to the individual.

4. Each institution should review its present philosophy and policy concerning the selection of prospective teachers from the college population, and bring them into accord with the principle that selection should be a continuous process from admission to placement, based upon sound guidance practices.

5. Each institution preparing teachers should develop a plan for selecting candidates for teacher-education curricula early during the freshman year.
6. Those institutions now lacking such facilities should provide clinics for treatment of those definite weaknesses revealed by scales, inventories, and/or tests.
7. Each institution should review its present program of guidance services to determine wherein it may be failing to reach effectively its students, particularly the prospective teachers.

#### FUTURE IMPLEMENTATION

1. Institutions preparing teachers should inaugurate a thorough study of their present programs of recruiting prospective teachers from the high school population.
2. Each institution preparing teachers should study carefully its present admission practices in order to determine what bases of admission are best for prognosticating success in academic and professional preparation.
3. Each institution should review also its present criteria for selecting prospective teachers from the college population and admitting them to teacher-education curricula.

#### COLLEGE COURSES AND THE PROFESSIONAL PREPARATION OF TEACHERS

##### IMMEDIATE IMPLEMENTATION

1. Each institution should seek to effect immediately more cooperation among all departments in developing an integrating continuity in the students' academic and professional training.
2. Administrative officials in some institutions should revise class attendance regulations and/or schedules for senior students in order to provide sufficient flexibility to permit student teachers to spend full days in the training schools during the final period of student teaching.
3. Administrative officials of each institution should give immediate consideration to the desirability of raising the standard of academic achievement for admission to student teaching above the present quality point average of *C*.

##### FUTURE IMPLEMENTATION

Each institution not now providing a four-year sequence of professional experience for prospective teachers should give thorough study to this problem with a view to determining the feasibility of developing such a sequence at that institution.



## PROGRESSIVE INDUCTION INTO STUDENT TEACHING

### IMMEDIATE IMPLEMENTATION

1. Each institution preparing teachers should provide a planned period of gradual introduction into the full responsibilities of student teaching.
2. Each institution preparing teachers should make sure that the required observation and early participation period is flexible enough to permit adjustment to the individual needs of prospective teachers.
3. Each student teacher should be afforded the opportunity of gaining an understanding of the purposes, needs, and operations of the entire school.
4. Responsible representatives of each institution preparing teachers should prepare prospective teachers for observation of and early participation in the activities of the training school.

### FUTURE IMPLEMENTATION

A properly constituted, representative committee of Virginia's teacher educationists should initiate a study of the whole problem of professional orientation and induction of prospective teachers into student teaching.

## SUPERVISED STUDENT TEACHING

### IMMEDIATE IMPLEMENTATION

1. Each institution preparing teachers should review its present program of student teaching to determine its diversity of opportunity.
2. Teacher educationists in each institution should place renewed emphasis on prospective teachers getting more thorough experience in the area of non-instructional activities.
3. Teacher educationists in each institution should work increasingly to secure the cooperation of their academic colleagues in the staff supervision of student teaching.
4. Institutions preparing teachers should take immediate action to reduce the teaching loads of those supervising teachers who are presently overloaded.
5. Those institutions not presently employing the full internship or cadet plan of student teaching should consider seriously the merits of this plan.
6. Institutions preparing teachers should impress upon all personnel supervising student teachers that supervision is a cooperative process between supervisor and student teacher.
7. Each institution preparing teachers should insist that college supervisory personnel visit the training schools more frequently and remain longer in the student teachers' classroom.

**FUTURE IMPLEMENTATION**

Each institution preparing teachers should review carefully the various bases used by it for admitting students to the student teaching phase of professional preparation.

**EVALUATION, PLACEMENT, AND FOLLOW-UP****IMMEDIATE IMPLEMENTATION**

1. Provide the necessary administrative stimuli for collaboration among college staff, supervising teachers, and student teachers in evaluating the student teachers' work.
2. Make sure that the evaluation of student teaching is a continuous process.
3. Place renewed emphasis upon the student teacher's self-evaluation of his own development.
4. Assume the responsibility for placing its properly prepared student teachers in the initial positions which they are best qualified to fill.
5. Take the placement function out of the realm of "extra-curricular" duty and assign the responsibility for placement to some qualified staff member.
6. Place renewed emphasis upon following up graduates who are new in the teaching profession.

**FUTURE IMPLEMENTATION**

1. Each institution preparing teachers should carefully review its present techniques for evaluating the professional competency of prospective teachers.
2. All institutions preparing teachers should engage in a joint study of the problem of following up graduates after they have entered the teaching profession.

**STUDENT TEACHING AND PUBLIC RELATIONS****IMMEDIATE IMPLEMENTATION**

1. Each institution should make educational interpretation the primary objective of a strengthened program of public relations relative to student teaching.
2. Each institution should attempt to make this educational interpretation a cooperative affair.

# THE MANAGEMENT OF INTERNAL SCHOOL FINANCE WITH REFERENCE TO EXTRA-CURRICULAR ACTIVITY FUNDS

by GROVER LAMARR ANGEL •

## THE PROBLEM

This is a study of internal school finance with reference to extra-curricular activity funds in secondary schools. More particularly it seeks to identify successful and desirable practices in the field and to present them in a manner which will help principals to improve practices in their particular schools.

## THE PROCEDURE

A careful search of the voluminous literature was made. The resources of the Library of Congress, the Library of the Federal Security Agency which includes the U. S. Office of Education, and the libraries of The George Washington University, Northwestern University, and the University of Chicago were utilized in this phase of the study. The extensiveness of the literature is indicated by the fact that more than 450 references were found pertinent to the study.

From the literature, the judgment of the writer based upon his personal experience as a secondary school principal and as a student of school administration, and from the judgment of principals and school treasurers, criteria were established to identify good practices.

From the results of the library research and discussion with administrators and specialists in the field, a lengthy six-page, printed survey instrument was prepared and sent to each of 196 schools especially selected by the Chief Educational Officer of the State Department of Education in each of the 48 states and the District of Columbia as doing the best job in the field of internal school finance.

The questionnaire listed 428 questions, grouped under six sections as follows: gathering funds for the support of extra-curricular activities, safeguarding extra-curricular activity funds, budgeting extra-curricular activity funds, accounting methods used in the management of extra-curricular activity funds, auditing extra-curricular activity funds, and the general control of extra-curricular activity funds.

Despite the fact that from one to two hours were required to complete the questionnaire, 189 or 96 per cent of the questionnaires were returned.

• A.B. 1929, High Point College.; A.M. 1946, The George Washington University; Ed.D. conferred May 28, 1952.



## REVIEW OF THE LITERATURE

The library research revealed that the bulk of the literature is concerned with generalization, theory, and speculation concerning what conditions should be made to prevail. Many descriptions of the practices in individual schools throughout the country are included. As is true in most educational literature there is a great deal of duplication of material. Many of the writers report and quote from the same sources. A comprehensive list of the references from 1900 through 1949 is included in the Bibliography.

## RESULTS OF THE STUDY

*Gathering Funds for the Support of Extra-Curricular Activities.*—A considerable number of schools receive some support for extra-curricular activities from public funds. Almost everywhere the board provides the personnel that sponsors activities and the space in which they may be held, but when it comes to the operational expense, the boards provide far less support than they should. As a result, schools rely on such sources as student activity fees, admission fees to school events, and fund-raising activities to secure money for the extra-curricular program.

For the most part, practices seem to be unaffected by school size, but there are a number of them which vary with the size of the school. Schools with enrollments under 500 and over 2,000 do not make as much use of the activity fee as do schools with enrollments of 500-1,000. Practically all of the schools charge admission fees to competitive and spectator events. Smaller schools are usually more dependent upon fund-raising activities, many of which are of doubtful educational value, to secure money with which to finance their programs.

The greatest problem of the small school is that it is likely to have a part-time principal, too few experienced administrators and teachers, and inadequate clerical assistance. However, the situation in small schools is better than the writer expected.

Regional location does not greatly affect problems of gathering funds for school activities, perhaps, partly because of the availability of the *National Association of Secondary School Principals Bulletin*, which carries many fine articles as a guide in this field. The existing regional differences in practices may reflect tradition. While 92 per cent of the schools in the Middle States get partial support of extra-curricular activities from boards of education, only 40 per cent of the schools in the South receive such aid. The activity ticket plan is used in 89 per cent of the schools in the Northwest, but only 24 per cent of the schools in the South use it.

*Safeguarding Extra-Curricular Activity Funds.*—A central repository system with control of funds invested in a central treasurer has been

adopted by all of the schools in this study. About two thirds of the schools place the central treasurer under bond. Approximately one half carry insurance against the failure of those who handle these funds to discharge their responsibilities and to protect the funds against burglary, robbery, or forgery. Most of the schools have a definite, uniform system of checking the sale of tickets and gate receipts. Although almost all of the schools use the facilities of the local banks for depositing student activity funds, only a small minority have their own school banks.

Safeguarding practices vary somewhat with school size. A larger percentage of schools with enrollments under 500 and over 1,000 require the central treasurer to be bonded than do schools in enrollment categories of 500-700 and 700-1,000. The larger the school, the more likely that insurance will be carried to protect the student activity funds. More smaller schools than larger ones have a vault or safe in which funds may be kept until deposited in a bank, since in large schools, where larger amounts of money are handled, bank deposits are usually made daily.

With respect to accreditation regions, the schools in the Middle States and the North Central regions are more likely to require bonding of the central treasurer, while the practice is less frequently used in the schools of New England. The schools in the Middle States and New England are more likely to operate a school bank than are the schools in other regions. The region least likely to have a school bank is the North Central. There seem to be few other significant regional differences.

*Budgeting Extra-Curricular Activity Funds.*—About one third of the schools in the study have a central budget covering all student activity funds, and in approximately the same percentage of schools, the student organizations formulate tentative budgets. Budgetary practices, however, are far from what they should be, and little crystallization of procedures is evident.

There seems to be no significant difference in the use of the budget according to the size of the school, the percentage of schools making use of this practice ranging from 27 to 34.

The schools in the Northwest make more frequent use of the central budget than those of any other region, and the schools of the South the least use of the system.

*Accounting Methods Used in the Management of Extra-Curricular Activity Funds.*—While many of the schools have elaborate and efficient accounting practices there is evidence that in others there is not as much uniformity in procedures as there might be. In some schools there is an indication of over-organization. A majority of the schools use the journal-ledger or double entry system. Supplementary bookkeeping devices have been developed to meet the needs of individual schools.



Uniform procedures include the requirement of an expenditure requisition; payment of bills by checks signed by both student and central treasurer; and the maintenance of an accurate financial record of all business transactions. Much remains to be done in this area.

Uniformity of bookkeeping methods seems to prevail in almost all schools regardless of size. Schools with enrollments of 500-700, however, are not as likely to require that all bills be paid by check as are schools in other enrollment categories.

No significant regional difference is noted in the uniformity of accounting methods used in the handling of extra-curricular activity funds.

*Auditing Extra-Curricular Activity Funds.*—In a majority of the schools, the general student activity fund is audited at regular intervals. There is a wide variety of practices in this respect, the auditors ranging from certified public accountants to teachers, administrators, and members of the board of education. Too few students are used in this matter. Many schools not requiring an audit and publication of a financial statement are disregarding fundamental business procedures. Many schools use only a certified public accountant for auditing funds. This procedure is sound because of its protective value, but the internal auditing should be done by students because of the inherent educational value.

Indications are that auditing of the general student activity funds is not as likely to be required in the very small schools (enrollment under 500) and the very large ones (enrollment over 2,000) as it is in enrollment categories between these two groupings. In small schools the auditing is more likely to be done by the principal or superintendent; in large schools, by a certified public accountant. Financial statements are less frequently made by schools with enrollments of 500-700 than in other enrollment groupings.

Auditing procedures vary according to regions. The percentage of schools in New England requiring auditing is smaller than that in other regions. The North Central region leads the others in making such a requirement. Fewer schools in the South use financial statements than do the schools in other regions. The schools in the Middle States lead in this respect.

*General Control of Extra-Curricular Activity Finance.*—Because of the large amount of money involved in extra-curricular activities in secondary schools, some state legislatures have become concerned with the protection of this non-tax money. In most cases the legislatures have been reluctant to invade this area, but their interest in the matter has served to stimulate the state department of education in some states to set up certain regulatory measures. State departments of education in at least four states have prepared and distributed bulletins describing



suggested procedures for the management of student activity funds. For approximately two thirds of the schools in the study, the respective local boards of education have set up uniform rules and regulations for the management of internal school finance. More than half the schools have established detailed regulations of their own in addition to those set up by the board.

*Practices Which the Better Schools Seem to Be Doing Well.*—Although the schools in this study were those with good reputations for handling internal school finance, no one school was doing everything well. Below are listed practices that many schools were doing particularly well.

1. Methods used in raising money for extra-curricular activities are educationally justifiable.
2. Central repository systems have been established under the control of a central treasurer.
3. The central treasurer is properly bonded.
4. Insurance is carried on student activity funds to protect them against burglary, robbery, and forgery.
5. The facilities of local banks are used to deposit school funds.
6. A definite, uniform system of checking gate receipts has been established.
7. A central budget covering all student activity funds has been set up, and provision is made for equitable apportionment of funds to the various student activities on the basis of educational value.
8. Extra-curricular organizations formulate tentative budgets which are revised and adopted by the use of democratic procedures.
9. Uniform methods of bookkeeping have been established.
10. All expenditures by extra-curricular organizations are properly requisitioned.
11. A uniform method for the payment of bills has been established.
12. Payment of all bills is made by check.
13. An accurate inventory is taken at the end of each school year of all extra-curricular organization equipment and supplies.
14. The general student activity fund and the funds of the various organizations are audited at regular intervals.
15. Financial statements of the general fund are published from time to time.

*Improvements Needed in Current Practices.*—Even among schools that have good reputations for handling extra-curricular activity finance, many procedures need improvement. These are listed below.

1. More financial support should be given student organizations by the board of education.
2. The student activity fee system should be reexamined in the light of educational philosophy.

3. The requiring of students to pay a student activity fee as a prerequisite for participating in the extra-curricular activity program should be eliminated.
4. Admission fees to school events should be only incidental.
5. Methods of doubtful educational value should not be used for raising student activity funds.
6. The central treasurer in every school should be bonded for as much money as he would control at any one time during the year, and payment for the bond should be made by the board of education or taken from the general organization fund.
7. School banks should be established not only to serve as a convenient media for handling student funds, but as a laboratory for teaching business procedures.
8. Greater care should be exercised in the printing, distributing, sale, and collection of school tickets.
9. Each school should have a central budget covering all student funds.
10. Better scheduling of budget building should be attempted in order that activities may have the benefit of a budget throughout the entire school year.
11. More student organizations should prepare tentative budgets and participate in actions leading to their revision and adoption.
12. More open hearings on central budgets should be held.
13. Attention should be given to simplification of supplementary book-keeping forms.
14. Tighter control should be maintained over student activity finances in order to prevent deficits.
15. Separate accounts for handling athletic funds should be eliminated.
16. More internal auditing should be done as a supplement to the general audit and for educational experience.
17. Financial statements of student activity funds should be published in student newspapers.
18. Student participation in the management of activity funds should be increased and the educational value reemphasized.

#### SUGGESTIONS FOR FURTHER RESEARCH

This study has opened up other problems that need further investigation. Some of these are listed below.

1. A national study of the trend toward, and the need for, subsidization of the student activity program by the board of education.

In most schools, even in those with good reputations, the sources of extra-curricular activity funds are inadequate and precarious, and lead, in a great many instances, to activities which cannot be justified on educational grounds.

2. A comprehensive study to establish objective criteria for measuring the successful management of internal school finance.

A guide in the form of criteria with specifications would be very useful to those who seek to manage internal school finance.

3. A broad statistical study of the status of extra-curricular finances in each of the several states.

This would serve to stimulate state departments of education to set up regulatory measures and prevent state legislatures from invading this area.

4. A study of the legislation pertaining to the management and control of extra-curricular finances.

An examination of the statutes in each of the states and the compilation of legislative controls would be helpful to those who are establishing regulatory measures.

5. A series of studies planned and executed simultaneously in each of the areas discussed herewith.

Such a series would be helpful in securing additional information and in further validating the findings of this study.

#### CONCLUDING STATEMENT

Student activities in secondary schools have grown to major proportions. A budget of considerable size is necessary to support and maintain these activities. Even though boards of education in many localities furnish some financial support, revenue for student organizations is in most schools entirely inadequate. Consequently, many schools resort to money-raising activities with doubtful educational value. While there is a growing effort on the part of school administrators to improve procedures in the management of internal school finance, the practices in most schools are still far from what they ought to be. Educational opportunities in connection with the handling of student funds are frequently neglected. Methods of handling student activity money should be reexamined and revised to the end that sound practices are maintained and greater educational benefits to students made possible.



## INSERVICE TRAINING OF CLASSROOM TEACHERS

by ESTON KERMIT FEASTER \*

### THE PROBLEM

The purpose of this study was to determine some of the immediate and specific inservice training needs of classroom teachers in West Virginia, to examine what provisions were made to meet these needs, and to offer suggestions for planning, executing, and evaluating inservice training programs. Throughout this study, inservice training refers to that part of supervision which is definitely planned and organized to help teachers with their specific and immediate needs arising from their particular school situation. Thus, inservice training is not synonymous with, but is considered to be a definite and delimited phase of, the total supervisory program which is properly concerned with both the professional and personal development of the teacher.

### THE PROCEDURE

Three methods were used to identify inservice training practices: (1) a questionnaire for classroom teachers to determine teachers' needs—how and to what extent they are met; (2) a check list for principals to obtain information on how satisfactorily teachers perform certain activities; and (3) group discussions with employed teachers and principals to obtain additional information on teachers' needs. Educational leaders in West Virginia from West Virginia University and the State Department of Education recommended individual schools and county school systems suitable for participation in the study. From the schools suggested, seventy-two elementary and secondary schools with enrollments of three hundred or more pupils were selected on a state-wide basis. Fifty-four elementary and secondary schools with enrollments of less than three hundred pupils and ten groups of teachers in one-teacher schools were selected from eleven counties to participate. Sixty-one large schools responded to the questionnaire and check list; forty-eight small schools and eight groups of teachers in one-teacher schools responded to the questionnaire; and nine county supervisors responded to the check list. Nine groups of teachers enrolled in extension classes offered by West Virginia University listed specific teachers' needs.

On the basis of the literature reviewed relative to inservice training in both government and industry and in professional education, and on the basis of the findings of this study, tentative criteria were formulated and proposed for planning, executing, and evaluating inservice training programs.

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## INSERVICE TRAINING NEEDS OF CLASSROOM TEACHERS

The teachers who participated in this study indicated that their most serious problems were those related to classroom instruction and school-community relations. Although teachers had some real needs related to school and classroom organization and management, in general, these were not so troublesome as those in the above-mentioned categories. Teachers had fewer real problems in respect to extra-classroom activities than in either of the other three categories of needs.

In the area of classroom instruction teachers said their greatest needs were: (1) to know and to understand the philosophy and broad objectives of the school in which they teach; (2) to understand clearly the specific objectives for the subject or grade which they teach and the objectives of the subjects or grades taught by others; (3) to know how to plan learning activities and to select learning activities to meet the specific objectives listed for a specific lesson or unit; (4) to observe outcomes of instruction that can be related to specific objectives; (5) to know how to get pupils to understand and to accept objectives (purposes) as worthy of achievement; (6) to plan cooperatively with other staff members in formulating procedures, new types of organization, and ways of solving problems; (7) to know how to use audio-visual aids to improve learning; (8) to be able to adapt new ideas, concepts, and methods to their particular situation; (9) to obtain adequate materials and facilities for individual and group learning activities; and (10) to be able to determine the present status of individual pupils as a basis for initiating learning activities, especially how to use and interpret standardized intelligence tests and other devices—interest inventories, check lists, rating scales, case studies, and anecdotal records. In this category, teachers had their least difficulties in using teachers' manuals, handbooks, and courses of study, getting the attention of the class at the beginning of the class period, helping pupils to budget their time and to plan their methods of study, and using teacher-made tests to determine how pupils are learning.

In the category of needs related to school-community relations, teachers faced their most serious problems in getting parents and others to understand what they are trying to do and why they are doing it the way they are, locating and using community resources for instruction, and understanding the school-community. To know in which community activities teachers should participate did not present a serious problem.

The most important problems related to school and classroom organization and management were: (1) how to classify and group pupils for instruction; (2) how to handle individual and group problems of adjustment; and (3) how to decide who should or should not be pro-



moted. Teachers did not experience special difficulty in handling routine administrative matters, completing records and reports on time, adjusting the physical facilities of the classroom, using student assistants, or establishing and maintaining effective relations with pupils.

In comparison with the other categories of needs, teachers did not experience serious difficulty in respect to directing and supervising extra-classroom activities. Insofar as this particular phase is concerned, the most important needs of teachers, though not nearly so important as those in the other areas, were: (1) supervising special activities, such as, school publications, plays, assemblies, and special programs; (2) organizing and directing play and athletic activities; and (3) supervising educational excursions, trips, and tours. Teachers experienced their least serious problems in supervising social activities, special drives and campaigns, and homeroom activities.

No claim is made that the needs indicated to be real by those who participated in this study constitute necessarily the real needs of teachers in general. No attempt was made to make a normative survey type of investigation. Instead, teachers were selected from schools reported to have good educational programs and to demonstrate good inservice training practices. This was done chiefly because it was felt that the information obtained would be of considerably more value in planning inservice training programs. If good teachers were of the opinion that the above mentioned needs were real, then it would seem that for other teachers these needs would be even more serious. In addition, it can be assumed that some needs which appear to be relatively unimportant so far as this study is concerned may be very real needs of some teachers.

#### THE EXTENT TO WHICH TEACHERS' NEEDS WERE MET

Some of the real needs of teachers were met reasonably well; others were not met effectively. For example, in classroom instruction only six of the fourteen most important needs were considered to have been reasonably well met by more than 50 per cent of those who considered the needs to be real. In no case did as many as three-fourths of the teachers who considered a need to be real say that it was reasonably well met. In one case, only slightly more than one-third of the teachers who said that the need was real believed that it had been reasonably well met. In general, about one-half of the twenty-eight possible needs pertaining to classroom instruction were considered to have been met reasonably well by less than 50 per cent of those teachers who indicated that the needs were real.

Of the three most important needs related to school-community relations, one was considered to have been met reasonably well by 46.9 per cent, another by 44.5 per cent, and another by only 29.3 per cent



of those who in each case considered the need to be real. All of the three most important needs related to school and classroom organization and management were considered to have been reasonably well met by more than one-half of the teachers who in each case said that this need was real. The important needs of teachers related to the supervision of extra-classroom activities were believed to have been met to about the same degree as those which pertained to school and classroom organization and management.

Of the needs which teachers considered to be important, those pertaining to school and classroom organization and management and the supervision of extra-classroom activities were met to a greater degree than those related to classroom instruction and school-community relations. The inservice training program has been least effective in helping teachers with their problems related to school-community relations. Obviously, those responsible for inservice training need to give attention to helping teachers more specifically with some of their most important needs in each of the four categories, but especially in respect to classroom instruction and school-community relations.

For the most part, principals and county supervisors agreed with teachers on what the most important needs of teachers were and on how well they were met. The findings indicated that there was agreement in considerably more cases than disagreement. However, in a few cases, there was considerable discrepancy between the extent to which teachers considered a need to be real and how well, in the opinion of principals and supervisors, teachers actually performed the activity.

The fact that principals and supervisors do not always agree in respect to what the real needs of teachers are has serious implications for planning the inservice training program. Both types of information are important; namely, what needs do teachers recognize and what needs are recognized by their principals and supervisors.

#### TECHNIQUES USED TO MEET TEACHERS' NEEDS

Only three techniques were highly effective in meeting the needs of those teachers who participated in the study—conference with the principal or supervisor; reading, research, and experimentation by the teacher; and the teachers' meeting. For example, conference with the principal or supervisor ranked first for ten and second for ten of the twenty-three most important needs; reading, research, and experimentation by the teacher ranked first for ten and second for six of the twenty-three most important needs; and teachers' meetings ranked first for three and second for five of the most important needs of teachers.

The teachers' handbook and administrative conference were effective in a few cases, but neither was nearly so useful as the three previously mentioned. The workshop, bulletin, and demonstration teaching, though

used rather extensively, were relatively ineffective in meeting the needs of teachers. The helping teacher and the organized training period were least effective in meeting any important teachers' needs.

The matter of selecting and using those inservice training techniques which are best adapted to meet the specific needs of teachers has not been given the attention which it deserves. Those responsible for planning inservice training programs may well consider the two-fold problem of what technique is best suited to achieve a specific purpose and how it can be used most effectively.

#### PLANNING, EXECUTING, AND EVALUATING THE INSERVICE TRAINING PROGRAM

For the purpose of this study, inservice training of classroom teachers is considered to be a special and delimited phase of the total supervisory program. Although the total supervisory program is broad in its scope, the purpose of inservice training is to improve teaching proficiency by focusing directly upon the immediate and specific needs of teachers as related to their particular teaching situations. To be effective, the inservice training program must be planned, executed, and evaluated in terms of the special objectives to be achieved.

In planning the inservice training program it is necessary, first of all, to identify the actual needs of teachers on the job. In this study three approaches were used. Although considerable agreement on the important needs of teachers resulted from the methods used, each approach revealed some needs not indicated by the others. It is not contended that these approaches are the only ones, or necessarily the best, to use in identifying the important needs of teachers. There are devices or techniques, other than those used in this investigation, which the principal or supervisor, because of the nature of his work, can use effectively to discover the actual needs of teachers under his direction. The findings of this study indicate, however, that in identifying the needs of teachers as the first step in planning the inservice training program, information should be sought from teachers, principals, and supervisors.

Some of the needs which teachers considered to be important were met reasonably well, others were not met effectively. In carrying out the inservice training program, it is extremely important to know to what extent the important needs of teachers are met through the program provided.

Some inservice training techniques were highly effective in meeting the needs of teachers, some were less effective but useful, others were almost totally ineffective. It seems that far too little attention has been given to the matter of selecting those techniques and procedures



that are most applicable to the specific need to be met. Those responsible for directing inservice training programs should, first of all, be well informed about the various techniques and procedures which may be used. Second, they should exercise special care in selecting those techniques most appropriate for achieving specific purposes. Third, they should use the techniques properly in order to be effective. It is likely that considerably more attention needs to be given to this phase of inservice training.

One of the chief values to be derived from the findings of this study relative to inservice training practices is its usefulness in planning inservice training programs. Therefore, on the basis of the ideas obtained from the literature in the fields of professional education, industry, and government, the findings of this study, and the author's experience with inservice training programs, some suggestions are offered in the form of tentative criteria for planning, executing, and evaluating inservice training programs. These criteria are given in the dissertation and are not repeated here.

The criteria proposed, though tentative, may well serve as a starting point for evaluating inservice training. Helpful suggestions may be obtained for taking inventory of the planning, executing, and evaluating phases. It is not suggested that those responsible for inservice training necessarily apply the criteria as recommended. Instead, it would be highly desirable for those who use the criteria to adapt them to their particular situation and revise as necessary.

#### CONCLUDING STATEMENT

This study was an attempt to find ways of improving inservice training practices in schools and school systems in West Virginia. It defined inservice training as that part of the total supervisory program which is designed to help teachers with their specific and immediate needs arising from the particular school situations in which they work. An attempt was made to discover some of the important needs of teachers, to determine to what extent these needs were met, and to appraise the effectiveness of various techniques used to meet the needs of teachers. This study has emphasized the importance and magnitude of the problems confronted by those responsible for organizing and directing inservice training programs. In addition, it has emphasized some of the chief difficulties of attacking the problem. It is hoped that the study will encourage others to follow in the same path and continue the development of needed improvements in the inservice training of teachers.



## THE ROLE OF THE HIGH SCHOOL PRINCIPAL IN SUPERVISION

by HOWARD ROBERTSON RICHARDSON •

The purpose of this study was to investigate the role which the high school principal should play in supervision and to make recommendations concerning it.

### BACKGROUND AND PROCEDURES

Essential to the study was a clear understanding of the historical development of the role of the principal in supervision, since current practices have been shaped by influences of the past. For this reason, the historical background has been given more emphasis than usual in the report.

A questionnaire was used to gather information concerning current supervisory practices of high school principals. Answers were sought to the following and related questions: What supervisory devices and practices are found in the high schools? What is the attitude of principals, not using the indicated devices or practices, toward their value? Who performs the various supervisory functions in the high schools? What personnel is available and is used to carry out the supervisory program in the high schools? How is the program of supervision in the high schools evaluated and by whom? Do high school principals feel that supervision should become increasingly their function and likewise the function of other staff members? Or should it become a more completely democratic endeavor in which all members of the faculty take an active part? This twelve-page questionnaire, divided into three sections (activities, organization, and philosophy), was submitted to 201 selected high school principals in 46 states. Returns were received from 194 of the principals, or 96.8 per cent of them.

The high school principalship is the result of the growth and development of an office that had its beginning in the early days when large classes made it necessary to employ monitors to assist in keeping order. It was a short step from that situation to one in which the auxiliary teacher or monitor operated in a separate room. Several teachers in different rooms of the same school developed the need for a head teacher. In the very early days, the function of this school leader was to manage the necessary routines: making arrangements for heating and cleaning, keeping records, and, on occasion, birching a recalcitrant pupil.

The principalship developed in the second half of the nineteenth century into an office with functions pretty well understood by the public

• A.B. 1927, Elon College; A.M. 1933, College of William and Mary; Ed.D. conferred November 11, 1952.

and the profession. As the need for coordinated management of all the schools in a city or county developed, the position of school superintendent was established. The high school principal often was the one to assume these responsibilities. As superintendent, he carried on many of the activities he had performed as principal.

Just before the turn of the present century, there developed an increasing awareness that the high school principal needed to become concerned with the improvement of classroom instruction. The schools were expanding very rapidly at that time and trained teachers were not in sufficient supply to staff the growing number of classrooms. Thus, it became necessary for the principal to supplement the preparation of teachers by inservice training activities. About the same time, there developed a growing consciousness that methods of teaching were important and that a knowledge of them could improve instruction.

This new outlook on teaching was a part of the movement that led to new courses and materials in such fields as physiology, physical education, music, drawing, art, handwork, and business education. As this diversification came, it was apparent that the supervisor could not know the subject matter of all the fields as was sometimes possible when only the narrow classical curriculum was involved. This situation made it even more necessary that someone be delegated responsibility for directing the educational purposes of the school.

In the early decades of the present century, the principal was looked upon as a sort of idealistic individual who knew all and who knew how to do everything. He was confessor, professor, and adjuster of all difficulties in the school under his jurisdiction. However, two conditions inducing change crept into the situation. In the first place, the school and the complexity of its whole scene became too big for any one person to know intimately each detail of its varied activities. In the second place, the idea of utilizing the knowledge and skills of all persons engaged in an enterprise came to the forefront and it was found desirable to make the organization of the school a democratic endeavor in which all played a part in the planning and in the execution of functions. The principal was relieved of his teaching work and in a true sense he became an administrative supervisor.

By the mid-twenties of the present century, the emergence of the building principal as the professional leader in his school had become a recognized fact. The principals themselves were coming to recognize the responsibilities and opportunities attached to this emergence. It became apparent that the high school principal must be concerned with the improvement of instruction and somewhat later, it came to be recognized, by at least some, that the way to do so was to improve the effectiveness of the teaching personnel.



As the necessity for playing a more important role in the instructional function of the school was recognized, it became apparent that many responsibilities had to be delegated to others. Teachers, staff members, consultants, pupils, and parents were all found to be the sources of help in improving the work of the school.

Devices which principals were finding to be effective in supervision were classroom visitations, conferences, group meetings, measurement devices, departmentalization, supervisory bulletins, demonstration teaching, curriculum revision projects, course outlines, lesson plans, and provisions for pupil adjustment. A line-type organization was adopted in many schools, although the college or university plan of giving a fairly large degree of autonomy to the heads of subject matter departments was also followed by many. This departmental autonomy was coming into flower about the same time as the idea that the use of objective tests could provide a basis for exactitude in determining the progress of pupils, their placement, and the effectiveness of teaching.

Too much emphasis upon departmental autonomy led to piecemeal education in which broad insights were lacking; and unwarranted reliance upon tests often led to the emphasis of the unimportant. These developments pointed up the need for an integrated curriculum and a broader, more intelligent spread of delegation in the field of supervision.

One of the most significant developments in the field of supervision came with the realization that improvement was ultimately something that teachers did for themselves and not something that someone did for them or to them—that, in the long run, improvement through learning must be self-directed. Approaching the problem from this viewpoint has developed a different concept of supervision and has caused many of the commonly used procedures in supervision to become merely auxiliary devices.

Study of the historical development of the principal's role in supervision indicates that the high school principal now has the major responsibility for supervision in his school and that he must improve the personal and professional qualifications of teachers if he is to accomplish the desired goals.

#### FINDINGS

One out of each four responding principals thought that we should look forward to expansion of the high school principal's role in supervision. Four out of five principals thought that supervision should become a more democratic process in which all members of the faculty join with the principal in the planning, execution, and evaluation of activities designed to improve instruction.

In three-fourths of our high schools the principal has the authority to delegate supervisory responsibility to others and to withdraw that



delegation, as he sees fit. Department heads exercise supervisory functions in nearly half of the high schools, but in only a very few instances do they have more than one period per day assigned for supervisory duties. Local school boards employ a supervisory staff for the entire school division in approximately one-half of our high school situations. Among these divisions only one-half have supervisors specifically assigned to high schools.

It can be seen from the above that if any supervision is to be done in three-fourths of our high schools, the principal or someone working directly under him must do it.

About 80 per cent of our high schools have special subject supervisors available. Half of the principals, who do not have special subject supervisors or consultants available, believe that they should have them.

Demonstration teaching is a device used in about one-fourth of the high schools. A few less than half of the principals who do not utilize this device believe that they should use it. Visitations by teachers in their own school and in other schools are used in a large proportion of the high schools.

The principal makes classroom visits for supervisory purposes in 80 per cent of the schools. The majority of these visits are not on a planned basis. Half of the principals indicated that they visited classes only as circumstances and conditions permitted. This probably means that classroom visitations for supervisory purposes are, in many cases, only haphazard inspections. Nearly all principals agreed that they visited new teachers more frequently than older ones; a fact that further suggests the inspectional nature of such visits. Three out of four principals indicated that they would like to have more time to visit classrooms.

Neither general supervisors nor department heads make supervisory classroom visits in half of the high schools. Thus, the majority of classroom visitations are done by principals.

Meetings of the entire faculty devoted to supervisory problems are held in a very large proportion of the high schools and usually once a month. Planned meetings of smaller groups of the faculty are held in over 90 per cent of the high schools. These groups are for planning (82 per cent), for departmental programming (86 per cent), for problem solving (75 per cent), for study (48 per cent), for training (34 per cent), for inter-subject coordination (34 per cent), and for staff conferences (55 per cent). About one-half of the principals report that the agenda for faculty group meetings are the joint responsibility of faculty committees and the principal. In about one-half of the high schools the principal alone is responsible for the agenda.

After the school session in the afternoon is the most popular time

for holding faculty meetings. About one-third of the principals report that some faculty meetings are held during the school session. Most of the faculty meetings are held in classrooms or the school library. Sixty per cent of the principals report that refreshments are served occasionally at the faculty meetings. Three-fourths of the reports indicate that faculty and staff members are required to attend meetings.

In general, considerable use is made of faculty meetings in supervision but the conditions under which they are held, the attitudes that prevail, and skill inadequacies concerning the group process often make them less effective than they might be.

It was discovered that all high schools reporting were either within easy commuting distance of a college or university center or that extension work was offered in the school. The principals indicated, however, that in their judgment, only a third of the teachers took full advantage of these offerings. Nearly three-fourths of the teachers taking college work were either working toward degrees or the renewal of certificates.

About 65 per cent of the principals indicated that they used a bulletin for supervisory purposes. Only 20 per cent indicated that the bulletin was produced with any degree of regularity. The evidence indicates a rather weak application of this device. A fourth of the bulletins were prepared by the principal and another fourth were edited by the principal. A bulletin board used for posting material of special interest such as charts, graphs, and notices of meetings was found to be used in three-fourths of the high schools.

Half of the principals indicated that they kept a record of significant points discussed in their individual conferences with faculty members. Only one-fourth of the principals, however, indicated that they kept a record of which teachers had had conferences with the principal. Eighty per cent of the principals indicated that they attempted to hold an informal chat of some length with each teacher at least once a year.

Eighty-five per cent of the respondents indicated the existence of a professional library and three-fourths of them stated that the school board provided tax funds which could be used to purchase professional literature.

Teacher exchanges have occurred in only one-sixth of the high schools reporting.

A large percentage of the principals (86 per cent) thought that a continuous and planned effort was made to fit the experiences offered in their schools to the needs of the pupils.

A few more than half of the schools (58 per cent) hold workshops, half of them being held in the afternoon after school is dismissed.

The person who has charge of the planning of supervisory procedures in a school is in a position largely to determine supervisory activities.



It was found that the principals consider themselves to be that person in 65 per cent of the high schools. About the same proportion (62 per cent) of the principals felt that virtually all supervisory functions are exercised by themselves. Such delegation of the supervisory functions as exists is largely to committees (43 per cent) and to individuals by subject matter areas (30 per cent).

Three-fourths of the principals indicated that evaluation of supervision is done through conferences with individuals and groups. Information gathered indicates that very little is done in a precise or formal way in the evaluation of supervision. A formal report of this important area of the principal's work is made by only 15 per cent of the principals.

#### CONCLUSIONS

The high school principal plays the role of coordinating supervisor in his particular school. Staff supervisors and consultants are available to a large proportion of the principals in developing their supervisory programs. The average high school principal feels that he has been delegated the authority to organize for supervision in his own school and as a consequence he accepts the responsibility for getting the job done. The evident lack of planning for the evaluation of supervisory programs in high schools seems to indicate that, even though a great deal of effort is spent on devices and activities, the entire program is often a scattered and unrelated endeavor.

Much more attention should be paid to the establishment and maintenance of inservice training activities within the faculty. Supervisory visits to teachers still seem to loom large in the minds of principals as a means of supervision. There is an evident lack of planning for supervisory classroom visits. College or university courses are not fully utilized by teachers in at least two-thirds of the high schools, according to the estimates of the principals. No definite national pattern for the delegation of supervisory functions seems to exist.

A study of the data reveals very little difference between the program of supervision in schools of from 400 to 800 in enrollment and those of over 800 enrollment. It is also apparent that there are no significant differences concerning supervisory concepts, activities, and organization in the different geographic areas of the country.

#### RECOMMENDATIONS

In the development of a supervisory program, the principal should seek the fullest development of each faculty member as an individual and as a professional person. This involves, among other things, the motivation of teachers to self-improvement, the provision of opportuni-



ties for self-improvement, and the evaluation of teacher growth and development.

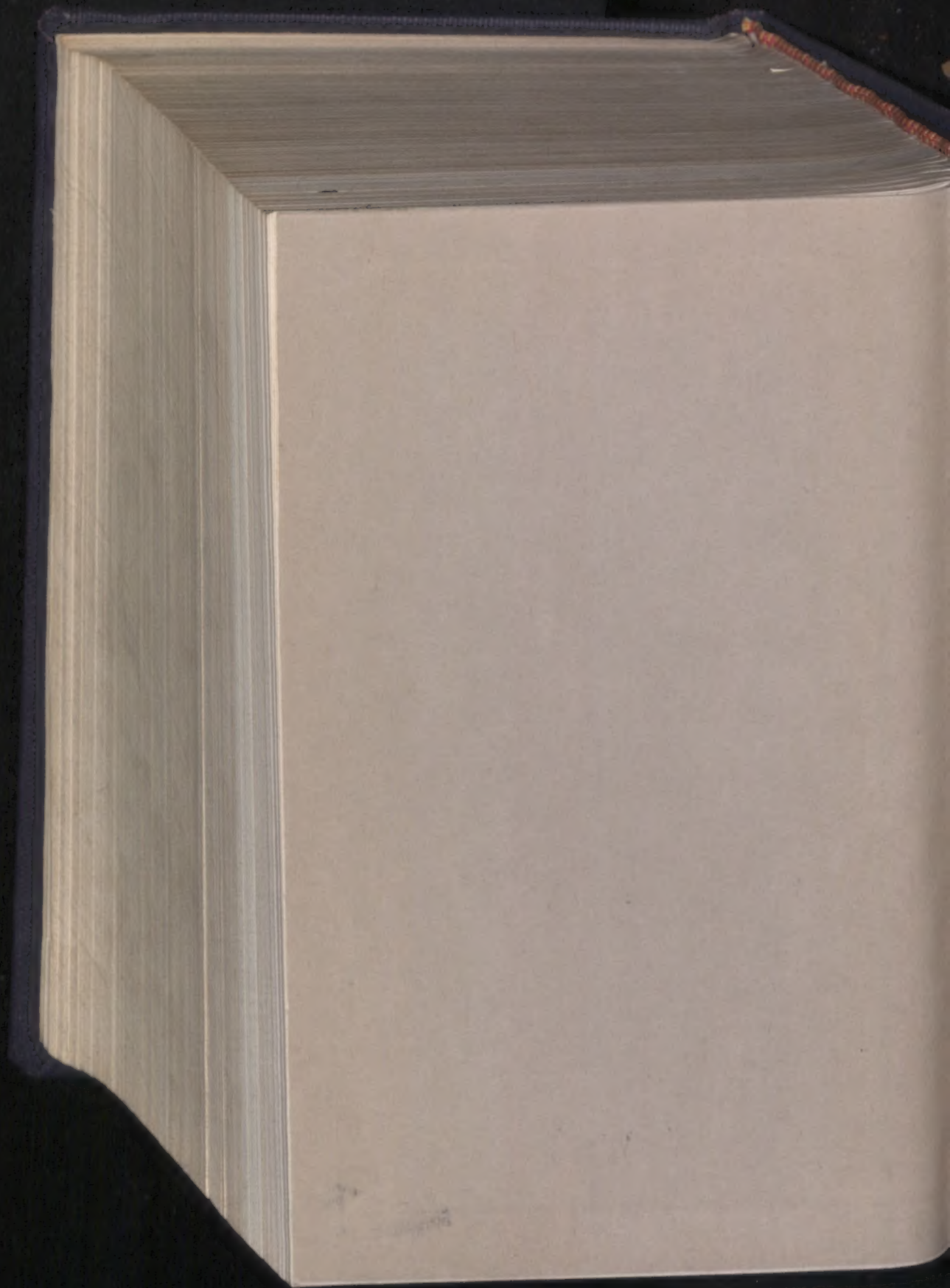
Supervisory activities should be planned as a part of a total program but should be scheduled so that the separate elements are undertaken only after adequate planning and inquiry into the resources for accomplishing the objectives of that particular phase. The faculty should be organized into various working committees, to deal with such problems as the discovery and removal of causes of staff friction, instructional inadequacies, and training deficiencies. The role of the principal is to arrange for the appointment or choice of committees, to orient the committees, to facilitate their progress, and to protect them from unwarranted pressures.

In planning a good program of supervision, a wide variety of supervisory devices should be considered. These might include demonstrations of teaching, faculty meetings, group conferences, workshops, development of course-of-study materials, bulletins, bulletin boards, a professional library, organized inservice training to meet specific and immediate needs, visitations, individual conferences with teachers, teacher exchanges, and adequate evaluation procedures. A well-planned program should use these devices as part of a coordinated program determined by clearly stated objectives.

Finally, it is recommended that all available personnel resources be used in planning the supervisory program. Certainly, teachers should share in forming the plans that so directly involve their development. Pupils and parents can often throw light upon causes of deficiencies that might not occur to teachers. Medical health officers can be of great assistance in planning the improvement of health instruction. It should be the policy of the principal to bring into the planning process all persons who can make worth-while contributions to it.









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